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Original Articles

THE USE OF DIGESTIVE FERMENTS IN MEDICINE *

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The primary digestion is accomplished through the action on the foodstuffs of certain ferments. The action in the case of each and all of these ferments is that of hydrolysis. Different foods require for their hydrolysis the attack of different sorts of ferments, and the organism is fortunately provided with a variety of these secretions.

It is somewhat remarkable that the several ferments operate unfavorably on each other. This is partly owing to the nature of the ferments and partly owing to the conditions under which they are secreted. Thus, ptyalin, an important factor in the digestion of starch, acts for the most part in the stomach previous to the free secretion of acid gastric juice, which inhibits the ptyalin; and the gastric ferments, in their acid medium, are in turn made inactive through the secretions entering the duodenum. It will thus be seen that the administration of digestive ferments as medicaments is open to physiologic objections. It cannot be denied that ptyalin, certain pancreatic preparations and some of the diastases are possessed of a certain amount of power in the conversion of starch into maltose and dextrin when thoroughly mixed with carbohydrate food at the time of ingestion. Practically the activity of all these substances ends as soon as the gastric secretion has become mixed with the stomach contents.

It would seem reasonable that when dealing with cases in which there is a very low gastric secretion, or none at all, these preparations would prove of material advantage to patients. It is presumable that they have some beneficial effects, but it is not considerable. At least such is the conclusion reached after the study of the digestion of patients treated with these ferments.

Not infrequently patients with low gastric secretion who are given extracts of pancreas, extracts of malt and other forms of diastase represent themselves as feeling better from the use of these substances. It is difficult to determine how much of this improvement is subjective, and how much of it owing to the extractive matter, bitter, or aromatic substances which may accompany the ferments in question.

Clinicians not infrequently take advantage of another means of assisting the digestion in patients who lack gastric secretion; that is, they attempt to favor the digestion of proteids by the administration of pepsin and hydrochloric acid. The question is, how much advantage is obtained by this plan? The French observers have interested themselves in the administration of gastric juice removed from the stomach of dogs through a fistula, and administered to patients suffering from lowered gastric digestion. The results are apparently far superior to those obtained by the administration of pepsin and hydrochloric acid. Nevertheless it can be shown by the removal of the stomach contents in those who are victims of achylia gastrica that appreciable, though very slight, digestion of proteids goes on in the stomach after the administration of pepsin and hydrochloric acid in full doses. In some instances the same result is obtained by administering hydrochloric acid alone.

As a rule the secretion of the gastric ferments and hydrochloric acid goes hand in hand. This is not invariable. A disproportion between the total acidity and the digestive power of the stomach has been shown by several observers. This occasionally appears in neurotic conditions.

In inflammatory states, the so-called catarrhal conditions of the stomach, accompanied by lowered secretion, the amount of hydrochloric acid and pepsin apparently occurs in natural ratio.

The great difficulty in obtaining better digestion through the administration of pepsin in lowered secretion lies in the fact that we are unable to administer hydrochloric acid in sufficient amount to satisfy the demands of the ferments. In order to bring about good digestion relatively enormous quantities of hydrochloric acid must be given, and this the patient resents. We should realize that, while the administration of pepsin and hydrochloric acid under such conditions is a move in the right direction, the actual help to gastric digestion is really very small.

The question arises what influence for good may exist in pepsin *per se*. May it not exercise some beneficial effects on the organism regardless of its special action in the stomach? I am not aware that this question has been answered. We occasionally find patients who insist that they feel great improvement from taking pepsin, though we may satisfy ourselves that this does not depend on any marked improvement in gastric digestion.

As to the matter of the effect of preparations of pancreas on intestinal digestion, the situation becomes still more confused. I have not been able to satisfy myself that intestinal digestion is improved by the administration of any ferments whatever. If asked to prove this I should have to plead my inability. I have been unable to recognize the improvement either in the observation of the patient or the study of the stools. Cooperation between the secretions of the duodenum, of the pancreas and the liver, not to mention that of the stomach, is a

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

matter of so much intricacy, as shown by the recent studies of Pawlow, Starling and others, that one feels reluctant to claim good results from the administration of diastase or pancreatic extract.

On the whole it must be concluded that the question of the administration of digestive ferments in medicine is complicated and is rendered the more uncertain by lack of precise knowledge as to what becomes of them in the digestive canal. In our present state of knowledge, or rather lack of knowledge, it behooves us to be modest in claiming either good effects or no effects from the administration of these ferments.

There can be no question that a large number of preparations which have been placed on the market are practically inert. Many combinations that are widely advertised, and presumably largely prescribed, are self-destructive, provided they are made as represented. That is to say, the various elixirs, etc., said to contain pepsin, pancreatin, hydrochloric acid, lactic acid, vegetable diastase, etc., are not only unphysiologic in theory, but by careful analysis made by the Council on Pharmacy and Chemistry of this Association, have been shown to be practically worthless so far as digestive activity is concerned.

This is not the least of many contributions to the enlightenment and assistance of the profession which have been made by the Association in recent years, and this seems to be a good occasion to express a recognition of the service.

436 Franklin Street.

ABSTRACT OF DISCUSSION

DR. GEORGE DOCK, New Orleans: My experience with the digestive ferments is rather unpleasant for those engaged in their sale. I think that Dr. Stockton was gentle in his reprobation. I have never prescribed digestive ferments. To be sure, some of my enthusiastic assistants have prescribed them, but never with any good results that I could see.

DR. C. S. N. HALLBERG, Chicago: It might be interesting to remark that in 15,000 prescriptions in the city of Philadelphia, representing about fifteen different pharmacists and one hospital, pepsin as such was prescribed 356 times, essence of pepsin 398 times, glycerite 15 times, the wine 20, the compound powder 18 and the aromatic 5. Pancreatin leads with 177 times. That means that the two main preparations of pepsin, that is, pepsin itself and the essence, were prescribed 750 times on 15,000 prescriptions. This shows that not all practitioners agree with Dr. Dock's theory.

DR. CHARLES G. STOCKTON, Buffalo, N. Y.: I did not prepare this paper as a voluntary contribution, but at the request of the management, and I realize that it has practically nothing new in it. It is simply a belief perhaps too nihilistic, which I expressed as best I could.

Moscow Free from Cholera During Prevailing Epidemic.—P. Blumenthal contributes an article to the *Zeitschrift für Hygiene und Infektionskr.*, xliii, 199, 1909, calling attention to the brilliant results of the installation of a good water service in warding off cholera as evidenced in the experience at Moscow last year. During 1908 there were 9,000 persons attacked with cholera at St. Petersburg, while notwithstanding the constant communication with Moscow, there were only sixteen cases of cholera at Moscow during the year. Moscow used to have extensive epidemics of cholera, three in particular, in 1830, 1848 and 1853, having included respectively 8,798, 59,000 and 4,000 cases with the usual mortality of approximately 50 per cent. In 1893 a new system of water works was installed, providing the entire city with good spring water, supplemented in 1900 by an equal amount of river water passed through nine filters, after which the number of bacteria is much below 100 to the c.c., ranging from 5 in winter to 41 in June as the extremes.

THE REMOVAL OF TUMORS OF THE PITUITARY BODY BY AN INFRANASAL ROUTE

A PROPOSED OPERATION WITH A DESCRIPTION OF THE TECHNIC

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The various operations designed for the removal of tumors of the pituitary gland in which entrance is made through the nose have all passed through the upper part of the nasal cavity.

After an extensive study of the anatomy and repeated operations on the cadaver, I have worked out the details of an infranasal procedure and herewith submit the details of the technic.

In general, two routes are proposed, the intracranial and the extracranial or trans-sphenoidal. The former has been suggested by Caton and Paul, Krause, Kiliani and Caselli, and put into use by Horsley and McArthur. In the main, however, surgeons are inclined to view that approach with disfavor owing to the difficulties and dangers incident thereto, and Braun is the only one of the recent contributors who maintains that the route is practicable. Certainly, a study of the anatomy and the reports of the pathology, present in the cases, distinctly favor the trans-sphenoidal route, for, while a few of the tumors rise in the sella turcica, in a great majority of cases they erode the floor and grow downward. This latter fact must not be lost sight of in considering the proper course to pursue, since we are dealing not with the normal anatomy, but with a pathologic condition, which in this case fortunately lessens the difficulties of the operation. I have worked over the various methods of approach to the sphenoid proposed by various men.

One of the simplest of the proposed methods of reaching the sphenoid base is by an incision passing between the base of the tongue and the angle of the inferior maxilla, but its difficulty is that the point of entrance is too far away for easy work and it is chiefly unsatisfactory since it strikes the sphenoid at an angle, and in a majority of the skulls I examined would necessitate an extensive removal of bone and even then be unsatisfactory.

The splitting of the superior maxilla, as suggested by König and Hertle after the method of Gussenbauer, is a severe operation and does not give any better access than the simpler methods.

The remainder of the operations have consisted in some method of turning the nose to one side or down and thus reaching the sphenoid after removing the ethmoid cells and turbinates and at times making even more extensive resections. Among these may be mentioned the operations of von Michel, Giordano, Löwe, Moszkowicz, von Eiselsberg, Schloffer, etc. Löwe made a longitudinal incision a little to one side of the median line of the nose, cutting through bone and soft parts. The two sides of the nose are then turned back and the ethmoid cells and turbinates removed, the septum being either deflected to one side or resected. The sphenoid cells are then opened.

Moszkowicz and Tandler proposed to make an incision along the side of the nose and to turn it to one side. The operation then proceeds along the lines just described. They proposed to secure more room at times by the removal of the nasal process of the superior maxilla and the under wall of the frontal sinuses. The operation was performed in two stages; the first part carried the operation down into the sphenoid cells as described above; a

flap of skin was then secured from the forehead and turned in along the cribriform plate, the tip reaching into the sphenoid cells. This was done with the idea of preventing meningitis. At the second operation the floor of the sella turcica was broken down and the tumor removed. It may be remarked in passing that, aside from the dangers of the operation, the floor of the sella turcica is generally destroyed at the time the patient comes to operation.

Schloffer in his case turned the nose to the right, excised the turbinates, the ethmoid cells, and the septum, removed the inner wall of the left orbit down to the optic foramen and the inner wall of the antrum of Highmore with a portion of the nasal projection of the left superior maxilla and then removed the tumor through the sphenoid cells.

Hochenegg turned down the nose, removed the ethmoid cells, septum and turbinates, made a bone flap of the anterior wall of the frontal sinuses and then passed through the sphenoid cells.

Von Eiselsberg operated each time by turning down the nose by what he refers to as the *Stimmegabelschnitt* (tuning-fork incision), removing the anterior wall of the frontal sinuses, the ethmoid cells, turbinates and septum. Borchardt operated after Schloffer's method.

It is thus seen that the essential feature of all these operations consists in reaching the sphenoid cells by the supranasal route.

Fig. 1.—Finding on the *x*-ray plate of the tumor in a patient under observation.

Against this route is the great danger of meningitis arising through the cribriform plate, and the necessary removal of the ethmoid cells in addition to the turbinates with the attendant hemorrhage. Moreover, in von Eiselsberg's cases there was marked deformity following recovery. In favor of his operation was the fact that the distance from the surface to the sphenoid is slightly less, and, moreover, it seemed that one might have more definite landmarks to follow. This latter advantage I soon found was more apparent than real, since, owing to the downward curvature of the cribriform plate in two of my skulls, I was led to enter the sphenoid too low down. This will be seen by examining Figure 6.

In my search for a simpler method I was led to turn the nose up and thus follow a route to the sphenoid through the inferior part of the nares. I was surprised at the simplicity of the procedure, the good field it gave to operate through and the apparent security of the results. Moreover, it appealed to me because of the minimum of hemorrhage and the markedly lessened chances of infection.

The essential steps of the operation, therefore, are as follows:

The nose is turned up and entrance made into the inferior part of the nasal cavity; the septum is cut along its inferior part and its attachment to the perpendicular plate of the ethmoid. The middle turbinates are removed and the septum deflected to one side. We thus have a perfect view of the field of operation on the sphenoid. The sphenoidal foramina are located, and the interfering attachment of the perpendicular plate of the ethmoid and the vomer are bitten away. The anterior wall of the sphenoid cells is broken in, and by the aid of a Hajek-Schmithuisen punch forceps the sphenoid cells are opened up and the tumor removed as in any other procedure. It is essentially, then, an infranasal route.

By this method in nine cadavers I had no difficulty in opening the sphenoid cells and removing the floor of the sella turcica. In no case did I miss it and open any other part of the floor of the skull, an accident which did occur once during an operation by the von Eiselsberg method, when, following the roof of the nose as a guide, I was carried by its downward curvature under the sella turcica. Moreover, the technic was so simple as to take a minimum of time. The only real difficulty encountered was the variation in the sphenoidal sinuses, and this, of course, is attendant on any type of trans-sphenoidal operation.

A few of the practical points brought out by the cadaver work and study may be mentioned.

In my cadaver work I made an incision around the lower half of the nose close to the crease at the alæ and

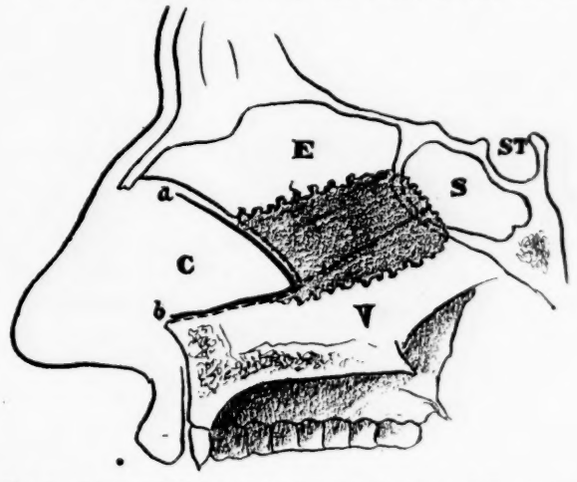

Fig. 2.—Line of incision (a-b) for the elevation of the cartilage (C). The perpendicular plate of the ethmoid (E) and the vomer (V) are shown as bitten away, as well as the anterior wall of the sphenoidal sinus (S).

close under the nares so as to have a minimum of scar. It may be necessary to excise the anterior end of the inferior turbinates. It is easily held in this position by the Jansen mastoid retractor. The deflected septum is held to one side with a Fraenkel nasal speculum, which holds the cavity wide open and yet does not interfere with the subsequent manipulations. Long, delicate yet strong instruments should be provided. The Hajek-Schmithuisen punch forceps is of great aid and it will be advantageous to have a narrow chisel with the end deflected at about 20° from the straight line. This is used in entering the sella turcica from the sphenoid. The attachment of the vomer to the sphenoid must be used as guide to the median line, since the septum between the sphenoidal cells is generally not in the median line and is asymmetrical in its relations. Many variations are noted in the sphenoidal cells. They may not be clearly separated from the ethmoid cells and it may be necessary to excise these latter. The cells vary greatly in size in different individuals. They may be no larger than peas, although this is uncommon, since they are generally of fair size. They may be extremely large. At times a horizontal septum divides them into four, and here it is difficult while operating to say whether you are

Fig. 3.—Tumors of the pituitary body, showing their relation to the sigmoid sinus. The upper drawing is from Zuckerkandl; the lower from Schloffer; the latter, and those in Figure 4, being from specimens in the museum at Prague.

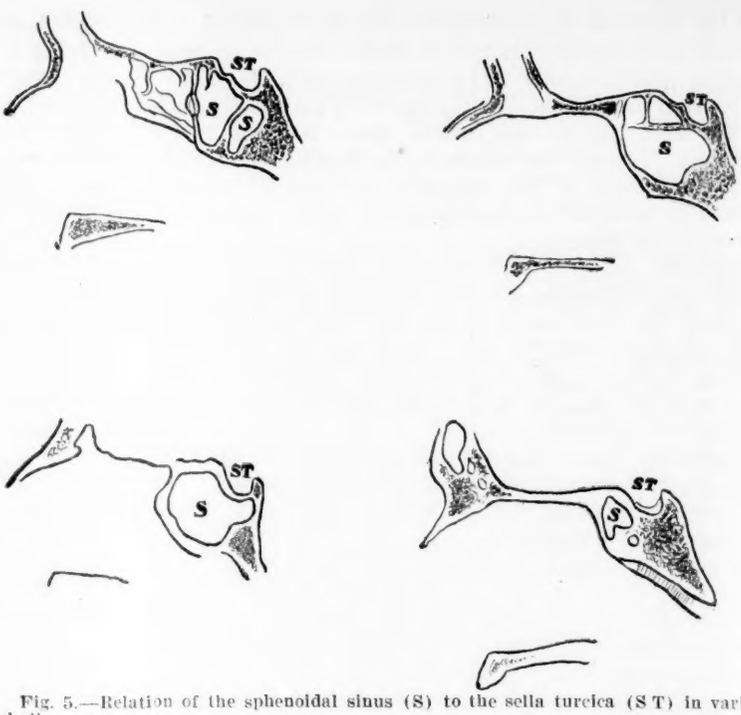

Fig. 5.—Relation of the sphenoidal sinus (S) to the sella turcica (S T) in various skulls.

Fig. 4.—Tumors of the pituitary body, showing their relation to the sigmoid sinus; drawing from Schloffer.

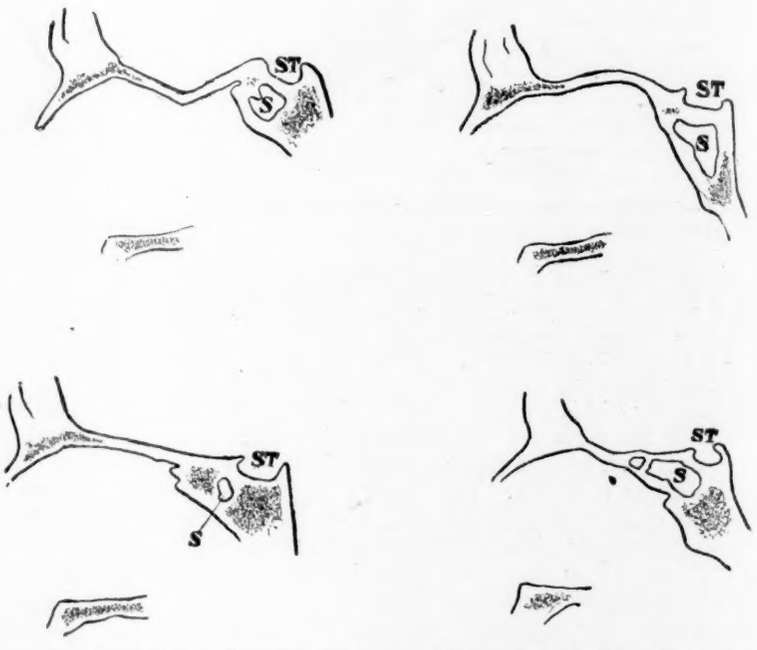

Fig. 6.—Relation of the sigmoid sinus (S) to the sella turcia (S T) in various skulls.

in the ethmoid or sphenoid cells. The sella turcica is also subject to great variation in size and position. These general facts may be seen from the drawings herewith shown, drawings made from my own cases and some redrawn from Zuckerkandl (Figs. 3-6). The changes in the relations due to tumors of the hypophysis are also shown in the drawings taken from various sources. Some idea of the relations may be secured from noting the position of the foramina. Zuckerkandl gives the accompanying table.

It will thus be seen that the roof of the sphenoid cells will lie approximately a centimeter above the foramina.

RELATIONS OF SPHENOIDAL CELLS TO FORAMINA

Height of Sphenoidal Sinus.	Height of Foramen. From Bottom.	From Top.	Height of Sphenoidal Sinus.	Height of Foramen. From Bottom.	From Top.
mm.	mm.	mm.	mm.	mm.	mm.
13	9	4	24	16	8
18	8	10	25	8	17
20	9	..	25	14	11
22	16	6	25	14	11
24	15	9	27	19	8

The distance from the bony entrance to the sella turcica should be measured on the *x*-ray plate. This information is of considerable aid while operating. It is normally about 8.5 cm. A good light is essential. The Kirstein or other head-light is satisfactory. The questions as to

position of the head, packing the nasal cavity before the operation with adrenalin-soaked gauze, the type of anesthetic, etc., are not germane to my subject, except that one should consider favorably the rectal anesthesia as administered after the method of Professor Besley and Dr. Churchill. The anatomic work was done in the laboratory for experimental surgery of Northwestern University. I acknowledge the great help of Drs. F. Gurney Stubbs and H. M. Richter in developing the technic.

SUMMARY

The infranasal route is proposed in contradistinction to the supranasal route for reaching the tumors of the pituitary body. The technic in general consists in elevating the nose, cutting the cartilaginous septum, removing the middle turbinates, deflecting the septum, locating the sphenoidal foramina, biting off the intervening attachment of the perpendicular plate of the ethmoid and vomer, entering the sphenoid cells and thus reaching the floor of the sella turcica.

103 State Street.

CYSTOCELE

A RADICAL CURE BY SUTURING LATERAL SULCI OF VAGINA TO WHITE LINE OF PELVIC FASCIA *

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Ahlfelt states that the only problem in plastic gynecology left unsolved by the gynecologist of the past century is that of permanent cure of cystocele.

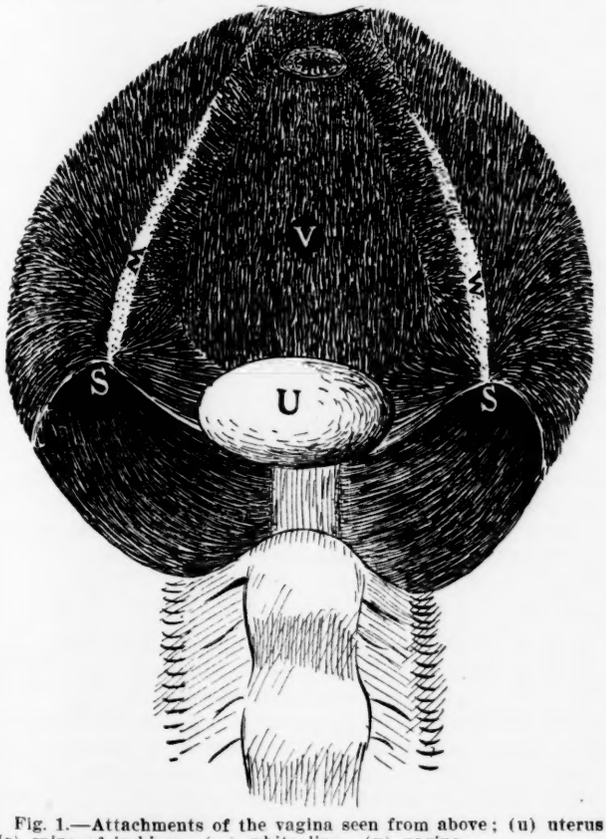

Fig. 1.—Attachments of the vagina seen from above; (u) uterus; (s) spine of ischium; (w) white line, (v) vagina.

That these cases recur after operation is too well known. The late Paul Numde states that all of his cases ended in failure and he had given up operating for that condition. The reason for failure seems to be that the normal support of the bladder has not been sought for and restored, but instead an irrational removal of part of the anterior vaginal wall has been resorted to, which could result only in disappointment and failure.

The support of the bladder may readily be determined in the cadaver by making a suprapubic incision and attempting to push the bladder out through the vulva. It

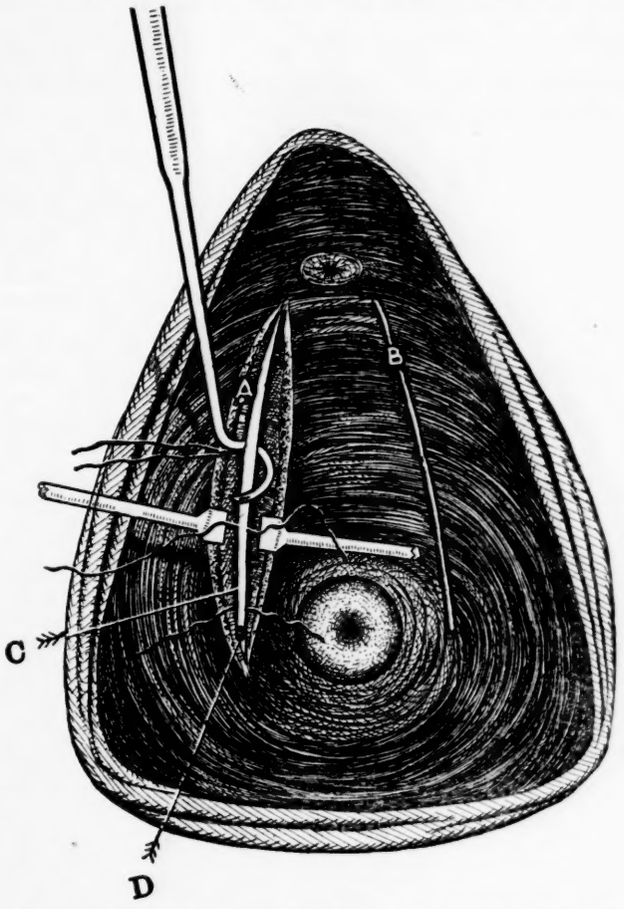

Fig. 2.—Passing of sutures (a) back of the white line by Deschamp's handle-needle; two sutures in place; incision (b) from lateral sulcus of vagina to side of urethra; (c) white line; (d) spine of ischium.

will be found to rest on the anterior vaginal wall to which it is slightly adherent. If the bladder be pushed aside and an attempt made to push the anterior vaginal wall back toward the perineum its support comes out very plainly. It is attached to the symphysis pubis and pubic bones in front, laterally to the white line of the pelvic fascia and ischiatic spine; and, above and behind, to the uterus. The uterus, being freely movable, is no important factor in the case and the real support of the vagina comes from its attachment to the white line of the pelvic fascia and especially a thick bundle of fibers attached to the spine of the ischium and radiating out on both the anterior and posterior surface of the vagina. If the fibers along the white line, and especially those originating from the spine, be cut across, the vagina falls down and can be pushed out of the vulva in the manner of a cystocele. It is, therefore, evident that a cystocele is caused by the breaking loose of the vagina from the white line which can readily occur during labor and especially in an instrumental delivery.

I have recently had an opportunity to observe the actual occurrence of this lesion in a case of instrumental delivery for eclampsia, in which a laceration run-

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

ning along the lateral sulcus of the vagina laid bare the spine of the ischium, and separated the vagina from its attachments. Had the patient lived, she would undoubtedly have had a cystocele.

In another case of a young primipara delivered by forceps without any laceration, except a small tear along the lateral sulcus of the vagina, a complete cystocele developed within a month, although the perineum was intact and the uterus was in normal position.

In the treatment of cystocele the object is to reattach the vagina to the white line of the pelvic fascia, especially at its origin from the ischiatic spine, which can be done through the vagina without great difficulty.

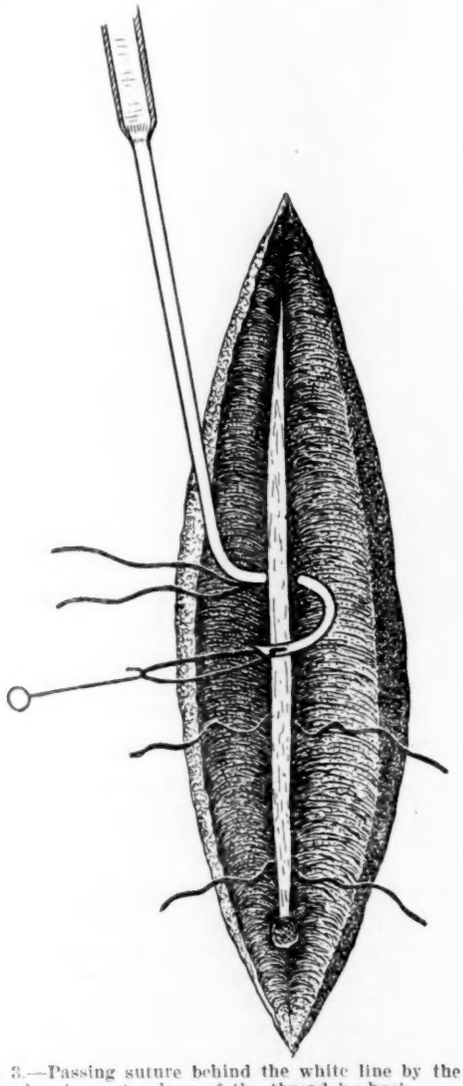

Fig. 3.—Passing suture behind the white line by the Deschamps needle; drawing out a loop of the thread by hook.

The vagina is held open by two retractors, the ischiatic spine located by palpation, and an incision from one to two inches long made through the mucous membrane, parallel to the white line, and extending well up the vagina. The bladder is separated from the vagina by blunt dissection until the spine of the ischium and white line are reached and can be felt uncovered beneath the finger. Hemorrhage is seldom troublesome and can be controlled by a few minutes' pressure. The sutures, which are of chromicized catgut, are passed under guidance of the finger by a Deschamps handle-needle.[1]

1. I make use of a Deschamps needle, described by Charles Peck in his article on cleft palate, Annals of Surgery, January, 1906, xliii, 10.

The first suture goes back of the white line just as it joins the spine of the ischium. The handle-needle is taken off, and each end of the suture threaded on a separate needle; one needle is passed from within out through the median edge of the incision, taking a firm hold on the vagina; the other needle is passed in a similar manner through the lateral edge of the incision. The two ends are then clamped and are ready to be tied. A similar suture is placed half an inch lower down on the white line, and when this is in place both sutures are tied, bringing the lateral sulcus of the vagina in contact with the white line of the pelvic fascia.

Should there be any prolapse at the outlet of the vagina, the incision may be extended down alongside of the urethra and the vagina sutured to the dense fascia covering the pelvic bone. The opposite side is treated in a similar manner and when both sides are tied the anterior vaginal wall is drawn up in a normal position, and has no tendency to sag, even when the patient

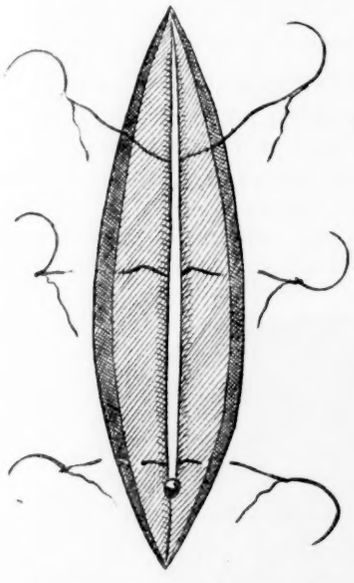

Fig. 4.—Suturing the lateral sulcus of the vagina to the white line.

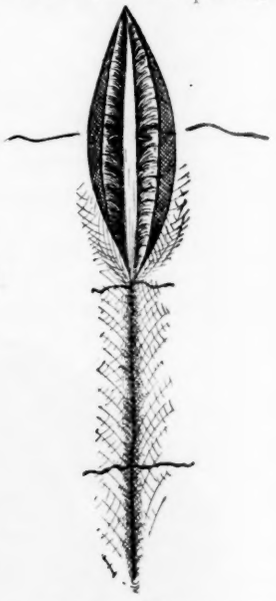

Fig. 5.—Closing the wound; two sutures tied.

coughs or strains. The vagina reaches across from one ischiatic spine to the other, without any tension; it collapses when the retractors are removed and normal relations of the parts are restored.

The operation is always done in combination with other plastic operations, and does not interfere in any way with them, nor does it minimize the caliber of the vagina, which is a matter of importance should extensive denudations be contemplated for a rectocele.

The immediate effect is satisfactory. There is not much pain; dysuria, if present, passes off in a few days. The patients get up in from ten days to two weeks.

I have performed the operation nineteen times in the past three years, always in connection with some other plastic operation. No recurrence of the cystocele has taken place, so far as I have been able to determine, though some of the patients could not be followed.

The operation presents the following advantages:

1. The normal supports of the bladder and vagina are restored.

2. There is no sacrifice of tissue.

3. Recurrences are rare and are due to faulty technic rather than faulty principles.

4. The operation is done without interfering with any other plastic work about the vagina.

4 Liberty Street, West.

ABSTRACT OF DISCUSSION

DR. H. GRAD, New York City: At the Woman's Hospital in New York we have passed through a series of stages in plastic surgery. It was in this place that Sims began his plastic surgery, followed by Emmet, Thomas, Peasley and others. We formerly operated there on a plan devised by Emmet of denuding the anterior wall of the vagina in cystocele with the addition of a suture Emmet devised. A denudation is made on either side of the cervix and also in the median line on the anterior wall of the vagina, and when these three denudations are brought together the cervix is pushed into the hollow of the sacrum. That was the first principle of a successful operation on the anterior wall as practiced in the Woman's Hospital. This operation was done for a great many years, but we had a great many recurrences. Within the past few years another method has been followed there, and that is the method of Dr. J. Riddle Goffe. In this operation a longitudinal incision is made from the urethra to the cervix on the anterior wall of the vagina and a transverse incision along the cervix. These two incisions open up the entire anterior wall of the vagina, the bladder is dissected off, which is a very important point, because the bladder wall becomes adherent to the anterior wall of the vagina in a way that is vicious. Dr. White did not mention cystocele where no traumatism has occurred. In the unmarried woman there is no traumatism, but a gradual loss of the support, and the result is cystocele. By dissecting off the bladder as practiced by Dr. Goffe, we find that we get absolutely perfect results. He sutures the base of the bladder to the anterior wall of the uterus with three fine catgut sutures to hold the bladder out of place. The pelvic fascia is brought together in the same manner as one does in operating for a hernia.

It seems to me that the operation described by Dr. White is a very good one because it is based on good principles, but I believe that unless the bladder is at the same time separated from the anterior wall of the vagina there will be some recurrences.

DR. C. W. BARRETT, Chicago: The principles on which cystocele is treated must be based on the fact that cystocele or rectocele, or prolapse of the uterus is a hernia through the pelvic floor, and we must take into consideration the supports of the pelvic organs and the abdominal organs as well. The viscera, including the pelvic organs, are supported by ligaments and then by a limiting wall, and that limiting wall grows in importance as it goes downward. The pelvic floor is in the unfortunate position of having to play fast and loose, of having to be a most important part of the abdominal wall, because it is the lowest, and it must allow the passage of the child's head which distends the soft parts of the pelvic floor to the extreme limits of the bony parts; and these muscles must again contract so as to serve as the most important part of the abdominal wall. When important structures run through the abdominal wall, as we see in the inguinal region, instead of running straight through, they run through one part, then along the wall obliquely and then through the remaining portion of the wall. In the lower animals, the canal being more oblique, we have less tendency to hernia. As the intra-abdominal pressure increases, the pressure of the internal layer is against the external layer. In animals that walk on all-fours, very little of the pressure comes on the perineal region. In the higher class of animals and in man the muscles which have no use as tail muscles form in the median line the levator ani muscle. Occasionally in an individual we see, without trauma of the pelvic floor, that the muscle presents almost no fibers meeting in the median line, so that no support is derived therefrom and a tendency to hernia is created by reason of atavism of the muscle. We find that the patient needs a perineorrhaphy just as badly as the patient who has had a traumatism of the pelvic floor. To cure cystocele and rectocele we must do several things: 1. Create a good strong pelvic floor, that does not depend on any skin operation nor on a mucous membrane operation. It is herniotomy; going in and getting hold of the levator muscle which has been formed in the upright animals, but which has been displaced by traumatism or which has never met in the median line. 2. We must put the vagina out of a perpendicular line so that the anterior segment rests on the posterior. 3. If the vagina is so loose that no matter how good a pelvic floor we make, it would gradually work out over the perineum, we must do something with the vaginal canal; and it may be that this method is a good one. I have had no reason to discard the method of taking out an eliptical piece in the anterior wall: not a scarification, but a deep dissection of the anterior wall and bringing it together. 4. We must not only do these two things, but we must put the uterus out of line with the vagina. If we leave the uterus in line with the vagina it will dissect its way down through the vagina again.

DR. I. S. STONE, Washington, D. C.: I agree with Dr. Barrett that there are two very strong "floors," or a division of one floor into two. It is very easy to understand this if we make a dissection from below or above, that the upper plane of this floor, as well as the lower, has strong bundles of fascia which may be demonstrated. If any one will make this dissection they will never fail to utilize it in an operation for cystocele. I can not understand how anyone, after these several years of advanced pelvic work, can continue to use a method denudation. Suppose we have only this upper "floor," as Dr. Barrett has said. If the uterus be left in such a position with the small end forward it will eventually prolapse. But if the uterus be so placed that the fundus is forward and the cervix backward, and in addition to the cystocele operation a proper perineal operation be performed, the patient is cured.

DR. A. GOLDSPOHN, Chicago: About seven years ago I published an article, with illustrations of the technic, entitled, "Intrapelvic and Infravaginal Perineorrhaphy, Without Loss of Tissue." I am glad that correct anatomic principles are finally gaining ground, with the profession, in regard to this operation; because until recently, this operation was in most hands a very superficial and incomplete performance, merely a cosmetic affair, which really improved the condition of the woman very little. As I pointed out in my first article on the subject, a German first called attention to the correct anatomy of the levator ani muscle, and its important function in this regard. I have wondered for years why it was that his countrymen did not incorporate his correct anatomic principles in their surgical attempts at perineorrhaphy. I was recently informed by one of them, that it was because they did not have buried suture material. But we have had absorbable sutures for a number of years and have been rather slow in this country in grasping the proper scope, of this operation, and in bringing an efficient technic into general use. Recently Dr. Barrett has become active in this matter, and he practically advocates the same principles, that I have contended for all these years. The play of normal forces in a woman's pelvis, is such, that when she strains, that is when intra-abdominal pressure is exercised, the pressure strikes the vaginal tube, sideways from above, the body of the uterus being during the same time, driven forward, in intensified anteversion. The anterior vaginal wall is driven against the posterior vaginal wall, which in turn is or should be driven against the pelvic diaphragm, the levator ani below. In that manner the vaginal tube is closed against the descent of anything through its lumen by evagination. The bridge of the levator ani muscle which normally passes from one side to the other, back of the vagina and in front of the rectum, is best restored when it has been injured, by temporarily raising the posterior vaginal wall, and then uniting the important structures by purely transverse buried sutures, and then adjusting the detached vaginal wall in folds on the new bridge.

Uterine prolapse in this country being almost altogether in women past childbearing years, or in those who are willing to surrender that function, can be treated very successfully as a rule, by combining a vaginofixation or a ventrofixation of the uterine body or fundus, (by a fibrofibrous union), with a thorough restoration of the anatomy of the levator ani muscle as a pelvic floor or diaphragm. Moderate cystoceles require no other treatment than the building up of such a normal support for them from below. When they are very marked or large, however, it is usually necessary to attack

the anterior vaginal wall, also to give the bladder a new location higher up or on the fundus uteri, where it can not again invite the disorder, and to abbreviate the expanded anterior vaginal wall. The latter is better done not by resection, but partly at least, by sliding a flap of one side under that of the other side, after appropriate detachment, and denudation, thus doubling this wall, over the median area, where it was formerly most attenuated.

DR. G. R. WHITE, Savannah, Ga.: I have been surprised many times in working out this subject to follow the logic of many of the operations recommended for the cure of cystocele. Everything as recommended except repair of the anatomic supports of the bladder. The problem of keeping the bladder in place is solved in repairing the shelf on which it rests. Otherwise I do not see how we can expect to cure cystocele. The point of great importance is that the pelvic organs are a unit. It will not do to repair one part and let the others go and expect to get a cure. There is no use in repairing a cystocele and leaving a relaxed perineum and prolapsed uterus.

THE MACROSCOPIC AND MICROSCOPIC APPEARANCES OF STOMACH CONTENTS

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The subject of the macroscopic and microscopic appearances of stomach contents, especially the former, is one that has been neglected by gastrologists. The moment the examiner secures the contents he pours them immediately into the filter on the funnel for the chemical examination. I have to meet yet the man who carefully examines the stomach contents in gross and then makes notes of the macroscopic findings. Even the best text-books on the diseases of the stomach are almost silent on the subject. I myself can judge much better about the anatomic condition of the stomach from looking at the stomach contents than from the results of the chemical examination. I will illustrate by an example.

Here is a specimen of stomach contents that shows on chemical examination the following: Free hydrochloric acid, 30; total acidity, 60; lactic acid, 0; starch digestion, erythrodextrin; pepsin and rennet ferments normal; biuret positive. What would be the inference? Cannot tell, as everything seems normal. One glance, however, at the stomach contents will establish the diagnosis of the case. The contents present the following characteristics: It spouted out with great force, like a fountain of the stomach-tube. There is a large quantity of it. It is very watery. Very little bread in it. Small round granules (starch) are falling to the bottom. Anything like this makes the case clear at once. It is a case of hyperacidity.

Here is another example: Stomach contents on examination show free acidity of 37; total acidity, 73; lactic acid, 0; starch, amylodextrin; pepsin and rennin, normal; biuret, positive. What is the inference? Nothing distinctive. The case, however, is clearly one of chronic gastritis of the acid variety. And on gross examination the contents show it at once. There is a lot of mucus in the contents embedded within the food. Contents are rather profuse and fairly fluid, and I would, therefore, surmise this to be a case of acid gastritis.

The negative part of the examination is just as important as the positive. A patient presents himself and tells of his illness, which has come on him rather suddenly. He has previously been in perfect health. For past few weeks he has had a variety of dyspeptic symptoms, with some loss of flesh and strength, loss of appetite, etc. The diagnosis of cancer of the stomach naturally flashes through the physician's mind, and he gives the patient a test breakfast. The chemical examination of the contents gives a normal result. Would any one, in the face of that history, assert that there is no cancer? I hardly think so. If, however, the stomach contents are examined macroscopically and found to consist of a clear, thin, milky emulsion, this being supplemented by a negative microscopic examination (and I will point out later what is understood by a negative microscopic picture), I would not hesitate a moment in pronouncing this case to be free from cancer of the stomach. I shall proceed now to point out the characteristic features of the macroscopic and microscopic pictures of stomach contents in normal state and in disease.

NORMAL STOMACH CONTENTS

In order to establish fixed clinical pictures we must have a standard. The stomach contents must be extracted always after a certain time and after a fixed uniform meal. It will never do to compare the appearances at one time of a carbohydrate meal and next time of a meat meal, as the two meals will vary considerably in their appearance. Nor does the same meal look alike at different periods of digestion. Fortunately the Ewald test breakfast is marvelously well adapted to the purpose. Although I am in a habit of giving each stomach patient two meat meals as well as two Ewald test breakfasts, and I have, therefore, had the opportunity of examining as many meat meals as I have examined test breakfasts, I have not learned to judge of stomach contents consisting of a meat meal with the same certainty as of an Ewald test breakfast.

A normal test breakfast, when extracted three-quarters to one hour after it is eaten gives a uniform white milky emulsion. The particles of bread are very tiny and they are all of almost uniform size. The contents are neither too thick nor too fluid. One or two ounces are secured without difficulty either by expression method or by employing an aspirator. There is hardly any odor to it. On standing it will separate into two layers which will be almost even in volume, the bread being at the bottom and a rather turbid liquid at the top. There is no mucus to be seen in it in gross. Its color is white, but may shade off into a very faint yellowish tinge. Having made these observations I proceed next to pour the contents into the filter. I notice that the contents pour uniformly. There is no large aggregate of masses bound together. There is not much of adherence between the individual particles of bread; a very slight, almost inappreciable quantity of mucus. The contents filter with a fair rate of rapidity and in five to ten minutes we get 5 to 10 c.c. of contents filtered through.

Microscopic Examination.—A drop of the unfiltered stomach contents is put on a large glass slide and spread out evenly to a very thin layer with a glass rod. The unstained specimen is very unsatisfactory for microscopic examinations and the keenest observer will confound small starch granules, fat globules, yeast cells, cell nuclei and blood cells if they should happen to be there. (Blood cells are extremely uncommon in stomach contents, as they are digested by the gastric juice and lose their identity.) I have, therefore, discarded the unstained smears entirely.

The most satisfactory way of examining it is to use a solution of iodin and potassium iodid in the following proportions: potassium iodid, 0.1; resublimed iodin,

0.05; distilled water, 100. Gram's iodin may be used, but it is too concentrated and stains the mucus a bluish tinge. The iodin solution stains all the starch, which constitutes the bulk of the drop, blue or violet, according to the degree of the digestion of the starch, while all cellular elements, muscle fibers, yeast, sarcinæ, are tinged lemon-yellow color. Bacteria are not stained by it at all. This stain gives a beautiful and very satisfactory picture. The iodin evaporates quickly, however, and on working for fifteen or twenty minutes over the slide the colors fade, which can be remedied, however, by adding another drop of the solution; the colors are then restored. The solution must be kept in a glass-stoppered bottle, as the iodin will evaporate through both cork and rubber; will turn from the normal wine color of the solution to a straw color which then has no staining properties at all.

Normal stomach contents, when stained after the above method, will show large numbers of granules of varying size. They will all be dark blue or violet, which will alter with the degree of starch digestion, the latter cir-

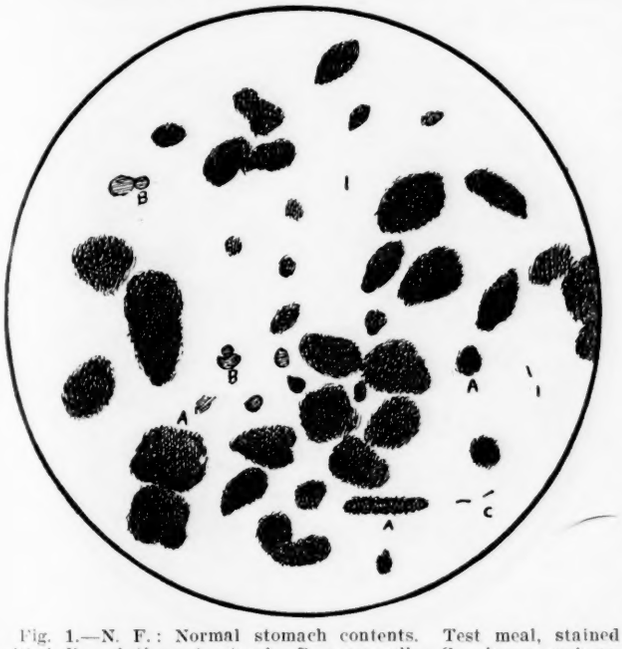

Fig. 1.—N. F.: Normal stomach contents. Test meal, stained with iodin solution; A, starch; B, yeast cells; C, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

cumstance, however, depending solely on the degree of the acidity of the stomach. The salivary ferment, the ptyalin, is always reliable and capable of carrying on the digestion of the starches with utmost satisfaction. It works, however, only in an alkaline, neutral and even faintly acid medium. According to Chittenden and Smith, it acts best when there is just acid enough to saturate the proteins present. This acid is called combined acid, as it enters into a chemical combination with the food. When there is acid present in excess of the affinities of the proteins present, i. e., above the degree of saturation, the acid remains free and is called free acid. It is this free acid that hinders the action of the salivary enzyme. It is obvious that in hyperacidity the rate of the secretion, the quantity of the acid containing gastric juice and the concentration of the acid cause the free acid to appear early in the digestion, and this checks the activity of the ptyalin. This is what gives the difference in coloration of starch with the iodin. The less the effect of the amylolytic enzyme the deeper does the iodin stain the starch and *vice versa*.

Besides the starch granules, a few yeast cells will be encountered. Yeast cells resemble very closely red blood cells, and the inexperienced eye will take them for such. They are almost of the same size. All red cells are of the same size, however; while yeast cells vary considerably, some being smaller and others being larger than a red cell. The main differential point is that yeast cells are oval, only rarely round. They are mostly situated in pairs. They are stained of a deeper lemon color by the iodin solution than red cells. In general red cells are a great rarity in stomach contents, while yeast cells are most frequent inhabitants of the gastric contents; occasionally an epithelial cell, just a few micro-organisms, cocci and bacteria (No. 7 Leitz). A bit of mucus may be met here and there.

The Stomach in an Empty State.—In fasting condition the stomach is contracted with the two walls lying in apposition to each other and no secretion is present. This is the view held by most writers, although some authors oppose it. We often, however, meet cases in which the introduction of the stomach-tube into the jejune stomach brings forth a few drams of fluid. This may have been left from the former meal. It may consist of swallowed saliva, or it may consist of duodenal secretion regurgitated through the pylorus. Some bile-stained fluid is of very common occurrence in the jejune stomach and this would imply regurgitated duodenal contents. The pylorus does not seem to be tightly closed when the stomach is empty. Boas[1] is of the opinion that the constant presence of bile in the stomach points to a stenosis of the descending portion of the duodenum. I have never found any acid present in these small quantities of secretions obtained from the fasting stomach, except in cases of Reichmann's gastrosuccorrhea. I have never tested them, however, for the presence or absence of enzymes.

By washing a fasting stomach we get off a good many exfoliated epithelia, bacteria and mucus, and from these a good deal of useful information may be secured on microscopic examination. I have examined the centrifuged sediments of the washings and will point out the results. In a normal stomach the washings are almost negative. Here and there an occasional cell is seen and some mucus and mucous corpuscles.

This completes the picture for normal, physiologic stomach contents. Anything beyond it either quantitatively or qualitatively is pathologic.

PATHOLOGIC STOMACH CONTENTS

Hypersecretion, Hyperacidity, Hyperchlorhydria.—The change in the character of the secretion is evident from the moment the tube passes through the cardia. The stomach contents rush through with a sudden gush and several ounces are obtained in a moment. On inspection the contents are seen to be profuse, very watery, with very little solid matter, possibly no food at all or heavy round little granules, like granules of sand, falling to the bottom. There is a marked acid odor. On standing, a very thin layer of solid granules appears at the bottom, with a large quantity of liquid over it. At times a small layer of thin bread particles float to the top, thus forming three layers: solids at bottom, liquid in the center and a thin layer of very light bread particles permeated by gases floating to the top. I will discuss later the significance of this. The contents filter very readily, almost like water through the filter-paper.

It is this profuse, watery condition, with or without the small, sand-like, starchy granules falling to the bot-

1. Boas: Deutsch. med. Wchnschr., 1891, No. 28.

tom, that makes the diagnosis of hyperacidity, no matter how low the figures for free, combined and total acidity should be. The explanation is obvious. Although the gastric juice be not concentrated and it contain not much hydrochloric acid in each individual cubic centimeter of stomach contents, the quantity of gastric juice being large, the total quantity of hydrochloric acid is necessarily high.

I employ this method of inspection exclusively in diagnosis of hyperacidity and never try to extract all the stomach contents. I consider this latter method both cruel and inaccurate. The test meal, as a rule, is being given to patients who are not accustomed to the use of the tube, and we ought to be perfectly satisfied if we get enough contents to yield after filtration about 10 or 15 c.c. for examination. It is a great torture to such a patient to try to empty the stomach completely, and, more than that, it is an impossibility to empty such a stomach. It is a very difficult task to perform even in a perfectly tolerant stomach. I will advise any skeptic who may doubt these latter words of mine, after he washes out the patient's stomach and he is convinced that the stomach is perfectly empty, to put the patient on a couch, have the patient relax himself and to splash the patient's stomach vigorously; he will elicit a very marked splashing. He will appreciate then how hard a task it is to empty a stomach completely.

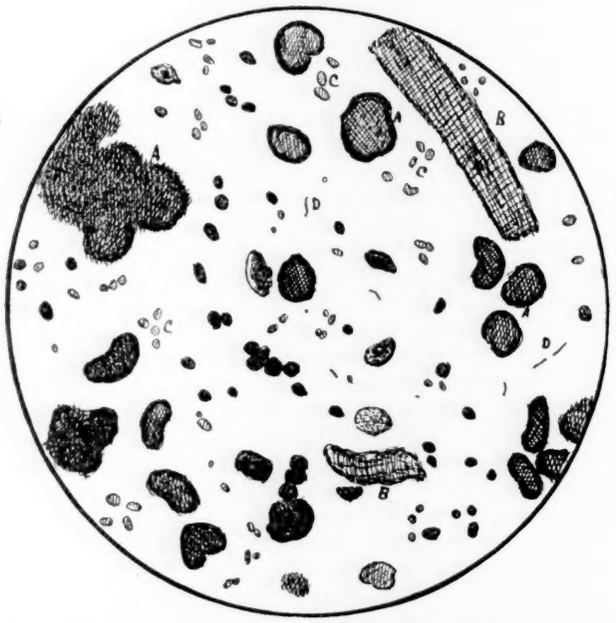

Fig. 2.—M. A.: Hyperacidity. Meat meal, stained with iodin solution; A, starch; B, muscle fibers; C, yeast cells; D, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

Microscopic Appearance: The starch granules are of large size. They stain deep blue or black with the iodin solution. Yeast cells are present in abundance, much more than in normal stomach contents. A good many bacteria float around. This latter fact would be contrary to the general teaching of physiologists, that one of the functions of the hydrochloric acid in the stomach is as a bactericide. My studies in the microscopy of the stomach contents have shaken my faith considerably in this doctrine. It is my belief that the real bactericidal power of the stomach lies in its motility. When the motility of the stomach is normal, the micro-organisms are not so abundant, it matters not whether the acidity is below or above par; while on the other hand, even in the most marked cases of hyperacidity, such as we often meet in benign obstructions of the pylorus, the bacterial flora flourishes to stupendous proportions.

In case of a meat meal the muscle fibers are seen in hyperacidity to be very well digested, the striæ of the muscle fibers being almost obliterated.

The microscopic appearance of stomach washings from the empty stomach presents the same features as does that of a normal stomach: a few epithelial cells here and there; also some mucus and mucous corpuscles.

Gastric Fermentation.—I do not mean to classify this as a distinct disease. It is merely a single pathologic feature which occurs in a variety of gastric diseases, and it is appropriate to point out how this can be recognized by the stomach contents.

The stomach contents, in case of fermentation, when put in a beaker or bottle, separate into three layers: a layer of food at the bottom, a layer of turbid liquid in the center and a third layer on top. This layer consists of thin fermented particles of food permeated by gases which float them to the top, mixed with some mucus and also fat. We must differentiate this topmost layer of food from a mere layer of fat which has been ingested and which floats to the top. There is often a very offensive odor to the contents. The most frequent occurrence of stomach contents of such a character is in cases of motor insufficiency due to obstruction, mostly benign, and at times malignant, and also cases of atony of the stomach. It is often encountered in cases of hyperacidity, this probably being due to some fermentation within the stomach, owing to its retarded digestion of starches occasioned by the hyperacidity, since the ferment of the saliva—the ptyalin—works only in a neutral, faintly alkaline or faintly acid medium.

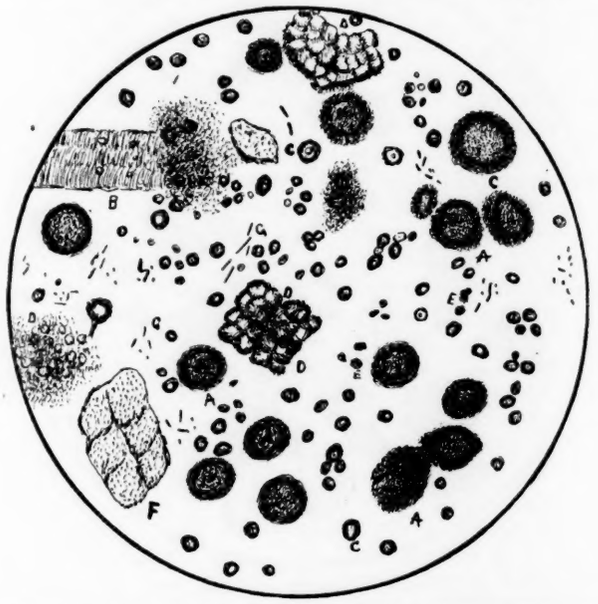

Fig. 3.—M. P.: Benign obstruction of the pylorus. Test breakfast, stained with iodin solution; A, starch; B, muscle fibers; C, fat; D, sarcinæ ventriculi; E, yeast cells; F, vegetable cells; G, micro-organisms. Leitz No. 7 objective; Ocular No. 4.

Gastric Ulcer.—The stomach contents may contain fresh blood, a phenomenon, however, which is seldom met. More often the contents have the appearance denoted by the classical name "coffee-grounds." "Coffee-grounds" are a cleavage product of the blood brought about by the gastric digestion. The coloring matter of the blood—the hemoglobin—through the enzymatic action of the gastric or pancreatic secretions, is converted into a protein body named globin and a ferruginous

coloring matter, hemochromogen, which latter, in the presence of oxygen, becomes quickly oxidized into hematin. It is this hematin that imparts that characteristic color of coffee-grounds. Microscopically the red and white corpuscles can be made out but with great difficulty, since they become digested by the gastric juice, which is, as a rule, very active in cases of gastric ulcer, as these cases are accompanied by hyperacidity.

In interpreting the meaning of coffee-grounds one must be very careful, as the patient instead of the regular test meal may take coffee, and, what is worse, may try with all his might to deceive the doctor. The microscopic examination of coffee-grounds being of no value on account of the loss of the identity of the red and white corpuscles which can be made out but with great difficulty in such cases we have to resort to a chemical test, such as the hemin test, etc. A very satisfactory and simple test, indeed, and the one which I employ is this: To equal parts of chloroform and turpentine are added one or two drops of fresh tincture of guaiac. This is shaken; some of the solution to be tested is added and the mixture shaken. In the presence of blood the mixture turns blue. I wish to caution the reader not to rely too much on the presence or absence of blood, whether in gross or microscopically, in the diagnosis of ulcer of the stomach, as blood is not often met in the stomach contents in such cases. In cases of carcinoma of the stomach this is a much more common phenomenon. In ulcer, black stools should be rather looked for than blood in the stomach contents.

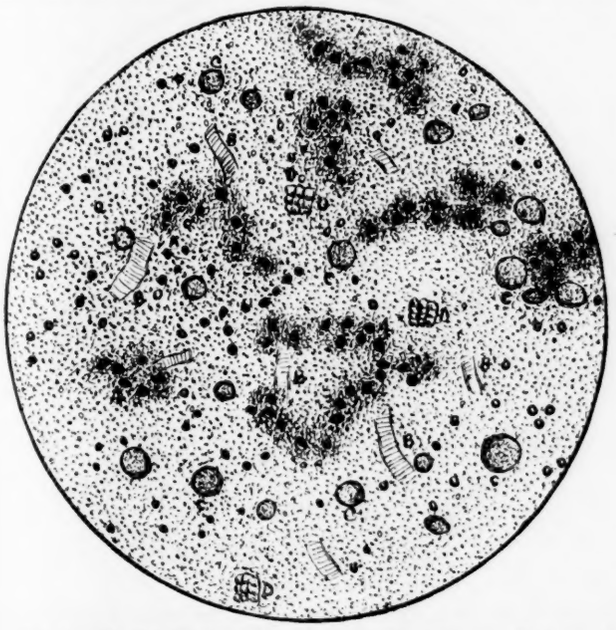

Fig. 4.—M. P.: Benign obstruction of the pylorus. Test meal; A, starch; B, muscle fibers; C, fat; D, sarcinæ ventriculi. Leitz No. 3 objective; Ocular No. 4.

Motor Insufficiency.—The stomach contents usually have a gray, dirty look. A lot of fat globules float on the surface. Elements of food not included in the test meals are often recognized; especially skins of fruits are left behind and are easily recognized. The mixture emits a strong, rancid, butyric acid odor. It separates readily into three layers, solids at bottom and top with liquid in the center.

Microscopically we find starch granules stained blue by the iodin solution; muscle fibers (if the patient eats meat); fat globules in large numbers. The fat globules vary a good deal in size and appearance. There are large numbers of them as small as a red cell or a yeast cell and even smaller and some very large ones. The small ones, indeed, resemble red cells or yeast cells very much, and the only way to recognize them is, first, that the fat globules do not stain with the iodin solution, while the red and yeast cells do stain a light yellow color, and, second, that we find a large number of other globules of the same character, but of larger and manifold shapes. Fat is better identified with a low-power lens such as a 3 or 4 Leitz than with a higher power. The fat globules are of various shapes from round to oval, elongated and even gyrate figures. There is another form of fat globules which are met especially in obstruction cases and which look not unlike raspberries. They stain a very pale yellowish color with the iodin stain. These are undoubtedly fat globules that have undergone certain lypolytic changes, the exact nature of which, however, I have never succeeded in learning.

Another element encountered in motor insufficiency consists of the sarcinæ ventriculi. They look like bales of hay and are found in two forms, a larger and a smaller one. They are mostly met in motor insufficiency of be-

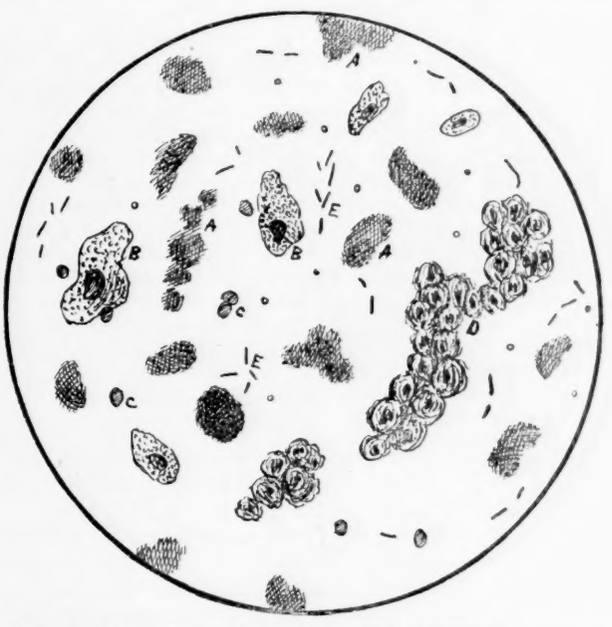

Fig. 5.—G. C.: Chronic gastritis. Test breakfast; A, starch; B, epithelial cells; C, yeast cells; D, mucous corpuscles forming mucus; E, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

nign origin. They are never seen in cancer. Oppler has injected pure cultures of them in carcinoma, and in twenty-four hours they all disappeared. Richter[2] reported a case of obstruction of the pylorus caused by a tumor formed by large aggregations of sarcinæ ventriculi. I have found it extremely useful in differentiating between an obstruction of benign and an obstruction of malignant origin. These cases are very trying, indeed, as they have most of the factors in common. There is the palpable tumor of the pylorus, there are the peristaltic movements of the stomach, there is the stagnation of food, there is the vomiting, there is the same loss of flesh and strength. The acidity is very often of little help, as in pyloric carcinoma the acidity is very often high. How are we to differentiate between the two conditions? A very good way is the microscopic examination. Presence of sarcinæ with absence of Boas-Oppler bacilli means benign condition. Presence of Boas-Op-

[2] Richter: Virchow's Arch. f. path. Anat., 1887, cvii, 198.

pler bacilli and absence of sarcinæ mean a malignant condition. In looking over my clinical material for the past few years I find only one case.

CASE 1.—A. M., female, aged 35, presented a typical history and appearance of carcinoma, and yet large numbers of sarcinæ were found in the stomach. There was a good-sized palpable tumor in the stomach. The examination of her stomach contents showed the following: Free hydrochloric acid varying between 4 and 20; total acidity, 48 to 92; no lactic acid; starch digestion—erythrodextrin. Gross examination: Contents looked gray and were of foul odor. Unfortunately the case passed out of my observation and I could not learn the ultimate fate of the patient. That case certainly looked malignant, but was it not rather a case of sarcoma than carcinoma?

Another case is the following:

CASE 2.—F. T., female, over 50, presented marked peristaltic movements and a lot of sarcinæ were found in her stomach contents. Here free hydrochloric acid was 40 to 50; total acidity, 70 to 76; lactic acid, 0. The patient was operated on at the Roosevelt Hospital. The pathologist's report inclined more towards a benign condition.

In general in motor insufficiency the microscopic examination is very often of great utility, as will be shown by the following case:

CASE 3.—I was requested by a colleague to extract and examine a test meal. The patient was an elderly man and it was the hardest thing to persuade him to have a stomach-tube passed. The patient was given an Ewald test breakfast in the morning on an empty stomach. It required a good deal of suasion and humoring to have the patient submit to the ordeal, although the stomach contents were withdrawn without any difficulty. The chemical examination showed somewhat higher figures than normal. On microscopic examination I found a large number of muscle fibers and large numbers of sarcinæ ventriculi with numerous micro-organisms. The patient ate meat on the previous day; it was evident that the case was one of motor insufficiency and the sarcinæ pointed to a benign obstruction. Here we have accomplished through the microscopic examination a great deal, especially since the patient would never submit to any more tubing of his stomach to carry out the stagnation test.

The large number of various micro-organisms, irrespective of the acidity, is another factor found in cases of motor insufficiency. Yeast cells are in abundance.

I cannot refrain here from expressing my opinion about remarks that I often hear made at medical meetings by stomach specialists about the great value of finding microscopically residual food as an early diagnostic means of pyloric obstruction. The conception is both erroneous and fallacious. If there is any obstruction at the outlet of the stomach, it is not the microscopic particles that will meet the obstruction first, but the big chunks of food will be left behind. The analogy with esophageal obstruction is striking. In the early stages of obstruction of the esophagus it is not the liquid foods, but the solid foods that cannot go through. Soup, milk, etc., go through very easily, and these liquids certainly contain microscopic particles of food. Milk contains fat globules. It is only in the last stages, when the esophageal stricture becomes impermeable, that the liquids cannot get through. The same holds true of obstruction of the pylorus. I admit that in some early cases of pyloric obstruction in the morning on a fasting stomach one may find microscopically particles of food left from the supper from the previous evening, which will point to an interference with the motility, but in such a case we have a much more reliable criterion, namely, examination of the patient after a full-sized meal seven hours later, when any normal stomach will be empty, while in a case of motor insufficiency that stomach will contain a great deal of food. The stomach will succeed in grinding down and pushing through this food in twelve or thirteen hours during the night, with the patient in a recumbent position, merely leaving a turbid residue which microscopically will prove to consist of food granules. It is obvious that this method of finding a great deal of food in seven hours is a much more reliable criterion than finding microscopic particles entangled in the rugæ of the stomach wall twelve hours after a meal.

Chronic Gastritis.—The macroscopic appearance of the stomach contents is diagnostic. The stomach contents are very thick, very scanty and contain a lot of mucus. In advanced cases the contents are so thick and tenacious that they represent one mass of mucus. It is the most difficult thing to fish this mucus out of the stomach. It can very seldom be taken out by the expression method, but it must be aspirated by an aspirator. There is very little gastric juice secreted by the stomach in such cases and the contents filter with the utmost difficulty. The bread is not in a state of fine division or emulsion, but consists of considerable sized morsels, just like bread that was only chewed and spit out. In less

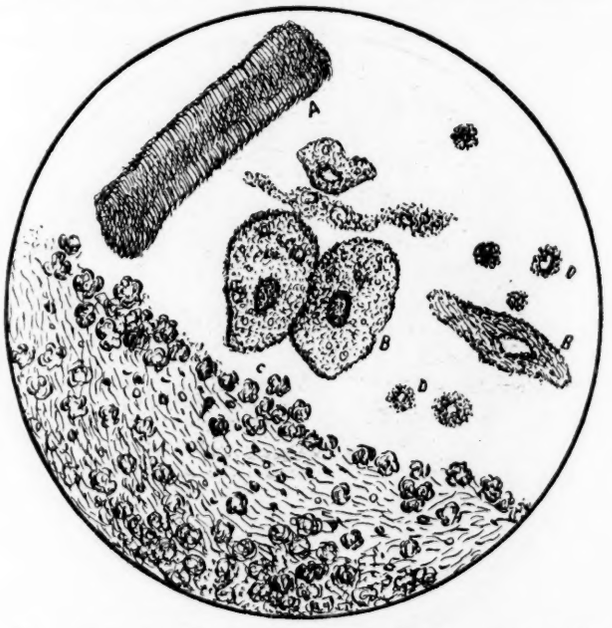

Fig. 6.—E. R.: Chronic gastritis. Washings from fasting stomach; A, muscle fibers; B, epithelial cells; C, a mass of mucus; D, mucous corpuscles. Leitz No. 7 objective; Ocular No. 4.

advanced cases considerable gastric juice is present. The gastric juice is usually of a yellowish color; the bread floats in it, just as if it were simply bread macerated in water instead of the almost white, very finely, uniformly divided particles forming an emulsion of normal stomach contents. Chronic gastritis is one of those conditions of gastric disease in which one look at the contents by the experienced eye diagnoses with certainty the presence or absence of the disease. The picture I have just depicted is pathognomonic of it. It matters not what the acidity is. Once there is mucus present, the mucus being thoroughly incorporated with the food (which differentiates it from mucus coming from the nasopharynx) it is a case of chronic gastritis. At times we find in carcinoma some mucus, as the cancer brings about a secondary gastritic process in the stomach, but the histories of such cases are so much at variance that no difficulty in diagnosis need arise. I met lately a case in which the contents looked thin, watery and a large quantity of it was secured, with very little solids in it, and it looked like a typical hypersecretion case. On putting it into the

filter, however, I noticed some stringiness in it. It proved not to contain any free hydrochloric acid and this was thin mucus and not gastric juice, as first supposed. This is the only one of its kind I ever saw.

The surest way of recognizing mucus, when not present in large quantity, is by pouring the stomach contents from one vessel into the other or into the filter for filtration, when the particles of food are seen to be held tenaciously together in a stringy, sticky mass. Sometimes the whole quantity secured is rolling down *en masse;* while in the absence of mucus the particles of food show very little cohesive properties and each one separates readily from the other. The mucus of the stomach is found in two distinct forms. One consists of glassy, swollen and sticky lumps. The other consists of white flakes, strings or shreds. The difference in this appearance depends on the presence or absence of free hydrochloric acid. The first variety is seen in cases of anacidity, the second variety is present in cases of normal or hyperacidities. To differentiate mucus of the stomach from that of the nasopharynx, the stomach mucus is intimately associated and mixed with the food, while

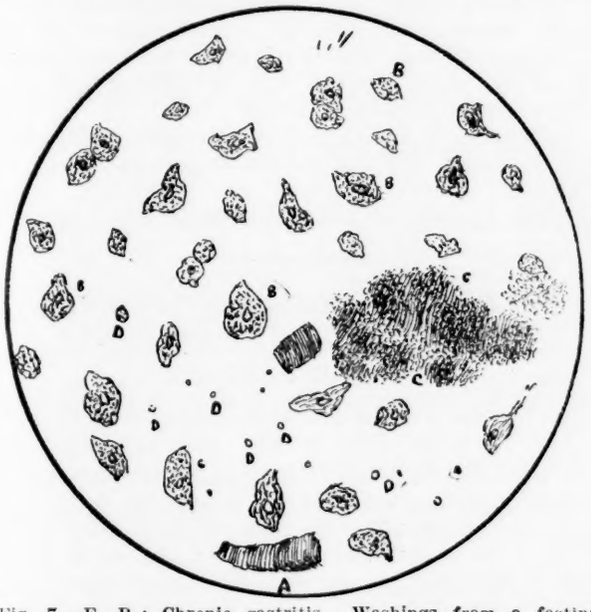

Fig. 7.—E. R.: Chronic gastritis. Washings from a fasting stomach; A, muscle fibers; B, epithelial cells; C, mucus; D, mucous corpuscles. Leitz No. 3 objective; Ocular No. 4.

pharyngeal mucus is seen as isolated balls, it is purulent and often foamy.

Microscopic Examination: On microscopic examination, chronic gastritis presents a characteristic picture which can be differentiated from all other stomach diseases, except that in some cases carcinoma resembles it. The starch is but faintly stained with the iodin solution. The muscle fibers, if the patient took a meat meal, present very marked striæ, as they are unchanged, not having been acted on by the gastric juice, which is of very low acidity and of very poor enzyme content. The contents are full of mucus, which under the microscope is recognized as dark, stringy masses holding entangled in their meshes large numbers of epithelial cells and mainly round cells resembling leucocytes. Large numbers of epithelial cells are seen throughout the field, and microorganisms. It is this picture of the mucus with the large number of round and epithelial cells that make up the pathognomonic picture of chronic gastritis, and there is only one stomach disease that may resemble it, namely, carcinoma of the stomach.

This microscopic picture can be employed as a very reliable guide to differentiate the grave diseases of the stomach with anatomic changes in the mucosa (ulcer excepted), such as gastritis or carcinoma, from the neuroses of the stomach. A picture like this points most decidedly to a condition attended by changes in the gastric mucosa, while the absence of this picture assures us either that there is nothing the matter with the stomach at all or that the stomach is afflicted with a disturbance of its nervous apparatus. It has served in my hands time and again for this purpose with elegance and precision.

The microscopic appearance of the washing of an empty stomach is equally characteristic of its condition. We find a lot of mucus, large numbers of epithelial cells, round cells in large numbers and especially round cells looking like leucocytes, which are most likely mucoid cells. A fair number of micro-organisms are present. I will repeat again for the sake of clearness that mucus is represented microscopically by a stringy medium studded all over mostly with round cells—mucoid cells

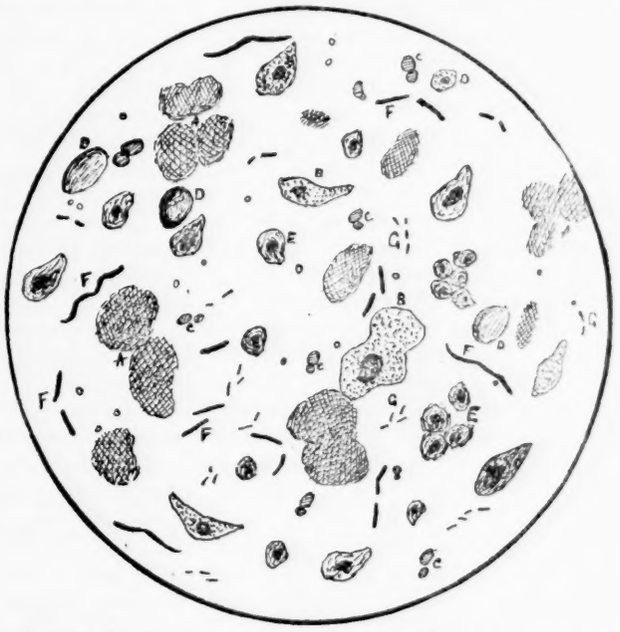

Fig. 8.—Carcinoma ventriculi. Test breakfast; A, starch; B, epithelial cells; C, yeast cells; D, fat globules; E, round and mucoid cells; F, Boas-Oppler bacilli, single and in chains; G, micro-organisms. Leitz No. 7 objective; Ocular No. 2.

—and also some pavement epithelia. It is rather of a dark yellowish color, when specimen is stained with iodin solution and rather dark when unstained. A strong iodin solution stains it blue and may then be mistaken for starch.

Carcinoma of the Stomach.—The contents are thick; very little gastric juice as a rule. At times there is some juice, but the bread in it looks just as if it were soaked in it. Large undigested particles of food, chiefly meat, if the patient has no aversion to it, are found in the stomach contents. Very often we get coffee-grounds with it, when the carcinoma ulcerates and small hemorrhages take place. The contents look at times not unlike feces, coming out through the stomach-tube like molds in large quantities. An appearance like this latter is pathognomonic of cancer. It is met in those cases in which the carcinoma invades both the pylorus and the stomach wall. Carcinoma contents look very much at times like those of chronic gastritis, but in the latter there is a good deal of mucus, while in carcinoma mucus

is rather uncommon, although it is encountered in some cases, since the cancer often induces a secondary gastritic process in the part of the stomach not invaded by the cancer. The odor in cancer contents is offensive.

Microscopic Appearance: The starches are very well digested and they are, therefore, stained but faintly with the iodin solution. Fat globules are usually present, since in most carcinomas, even in those that are not situated at the pylorus, the motility is below par, and some stagnation is present, and, therefore, fat globules are the rule even with an Ewald test breakfast. We seldom find muscle fibers, since these patients develop an aversion to meat. Should we give the patient some meat with the meal, we will find the muscle fibers very poorly digested, as the absence of the pepsin and hydrochloric acid leave the muscle fibers unaffected. Their striæ are prominent and intact. Large numbers of cellular elements, pavement, small round, large round and cuboidal epithelia, float around in great abundance more than in any other kind of stomach contents. They are, however, always single cells or a few together. Unfortunately, I never met large conglomerations of them, particles of tissue that should enable us to identify them as being fragments of a cancer. There is an absence of sarcinæ in cancer, even in cases in which the cancer invades the pylorus. The characteristic microscopic feature of cancer of the stomach, however, is the Boas-Oppler bacillus. This is a rod-shaped bacillus, non-motile, which forms long chains. It does not need any staining and can be easily identified even with a low power. There is no need for an oil immersion; a 6 or 7 objective (Leitz) brings out all its features. The Boas bacillus is an almost constant inhabitant of the cancer stomach. Most cases of cancer of the stomach show it. This is conceded by most authors. It is seen in larger numbers in washings of a jejune stomach than in food contents. It seems as if that bacillus were taking shelter in the folds of the stomach wall. It is of diagnostic value only when present in large numbers. A few isolated bacilli have no diagnostic significance. There has been considerable controversy among stomach specialists as to the origin of the Boas bacilli, some considering them as the result, while others consider them as the cause of lactic acid. While it is a well-known fact that the Boas-Oppler bacilli can produce lactic acid, it is equally well known that various micro-organisms are capable of producing lactic acid under favorable circumstances, i. e., when the bacilli are given plenty of time to act and when there is an absence of hydrochloric acid. Cancer of the stomach with its poor motility and its anacidity is admirably adapted to these purposes. I wish, however, to correct the prevailing erroneous idea that Boas bacilli and lactic acid always go together. I can state positively that I have met cases in which Boas-Oppler bacilli were present and no lactic acid and *vice versa*. I have seen several clear-cut chronic gastritic cases with presence of lactic acid, but no Boas bacilli were present. I took special care to ascertain that the patient had a lactic-acid-free test meal and did not ingest the lactic acid.

Other micro-organisms are also present in large numbers. The stomach teems with them in cases of carcinoma more so than in any other pathologic condition of the stomach.

Microscopic Appearance of Stomach Washings: The great abundance of cellular elements, pavement, round, cuboidal and cylindrical, the Boas-Oppler bacilli in large numbers and a very rich microscopic flora make almost a diagnostic microscopic picture.

Gastric Erosions.—In siphoning stomach contents or in doing lavage we sometimes find bits of gastric mucosa of variable size. They are red in color and may be mistaken for bits of fresh meat or corned beef, the differentiation of which is often made possible only through microscopic examination. Dr. Max Einhorn[3] has described conditions in which these bits of mucosa have been especially prevalent, as a separate disease, by the name of gastric erosions. These bits of mucosa cannot be caused by trauma, such as could be inflicted by the stomach-tube, since their finding is not accompanied by bleeding. While it is of great interest to make sections of them for microscopic studies, most writers agree that these bits of mucosa cannot serve as true representatives or samples of the general condition of the gastric mucosa.

Nervous Dyspepsia and Other Gastric Neuroses.—These present nothing distinctive in the appearance of their stomach contents and give the same picture, both in gross and microscopically, as normal stomach contents. There is no better guide in differentiating a neurosis of the stomach from an organic lesion (except ulcer) than by the gross and microscopic examination of the stomach contents. A normal macroscopic and microscopic picture of stomach contents with a stomach history, provided we can rule out diseases of other organs, means a gastric neurosis.

In conclusion, I wish to thank my brother, Mr. Samuel Weinstein, for his painstaking execution of the drawings.

61 East One Hundred and Seventh Street.

THE WORK OF A COOPERATIVE HYDROTHERAPEUTIC ESTABLISHMENT *

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BOSTON

In 1903 Dr. James J. Putnam and a number of other Boston physicians established a cooperative hydrotherapeutic institution under the name of the Medical Baths. Rooms were secured and equipped on the top floor of a modern office building conveniently located near the residential part of the city. The object of the enterprise was to furnish facilities for hydrotherapeutic treatments, especially those that require elaborate apparatus and skilled operators, so that all physicians in Boston and vicinity might avail themselves of these approved forms of treatment. At that time there was not a hydrotherapeutic douche apparatus or an electric light bath in the city, and the physicians who wished to have a patient given a wet-sheet rub or a carbon dioxid bath did not know where to find a man or woman familiar with the proper hydrotherapeutic technic.

At a meeting of physicians called by Dr. Putnam in October, 1903, it was decided that there was enough interest in hydrotherapy among physicians to make the plan of maintaining a self-supporting institution feasible and desirable. The institution when opened consisted of a large reception-room, five dressing-rooms, a large treatment-room, a douche-room, two toilet-rooms and two storerooms. The services of a professional decorator were secured in arranging tasteful and appropriate furnishings. Every aid to cleanliness and cheer-

3. Einhorn, Max: Med. Rec., June 23, 1894.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

fulness was introduced and the rooms were lighted from above as well as from the sides. In the large treatment-rooms yellow-stained and leaded glass was used in the windows which form nearly the entire side of the room. This shut out a dreary scene made up of chimney tops and railroad tracks and gave the effect of diffuse sunlight; the suggestion of warmth was produced even on a dark winter's day. The expense of fitting up the rooms amounted to about $2,000; and this was paid by gifts and loans from friends interested in the enterprise. Pledges amounting to $2,000 were secured to cover a possible deficit during the first year. To this guarantee fund many physicians subscribed. A complete douche apparatus and two hot-air cabinets were furnished by Dr. Putnam. The management of the establishment was in the hands of a committee composed of Dr. J. J. Putnam, E. G. Cutler and R. W. Lovett. I was made the medical director.

In his first annual report Dr. Putnam said:

> With the increasing experience of our operators, there is no malady for which patients now take long journeys to distant water-cure establishments that cannot here be adequately treated. It is, moreover, unique in being a physicians' establishment, founded to promote the needs of the profession and their patients as well as the education of students and nurses as far as that is practicable, and conducted in such a manner that physicians can send their patients without fear that their relations to them will be anything but strengthened.

J. Putnam. There is a restriction on the transfer of stock which will prevent it from passing out of the hands of physicians and will enable the corporation to purchase stock of any who wish to sell. It is the purpose of the directors to use any profits that may be realized to making improvements and in advancing physical therapy rather than in paying dividends on the stock.

Last year three more rooms were added, so that now there are accommodations for eight patients. This permits a rest in bed for several hours, if that is desirable, as it often is in connection with sedative procedures. With the smaller number of rooms it was sometimes necessary to cut short the period of rest, as the room was needed for another patient. The superintendence of the establishment is in the hands of a matron, who arranges the appointments for treatments, receives the patients, assigns the rooms and collects the fees. If the operators are negligent or if complaints are made by the patients she reports at once to the medical director.

The forenoons are given up to women patients, the afternoons to men. All treatments are by appointment. There are two chief attendants, a man and a woman, and each has an assistant. All four of the attendants were trained in an excellent school of medical gymnastics and are skilled in mechanotherapy as well as in hydrotherapy.

RECORD OF A CASE OF SLIGHT CARDIAC INSUFFICIENCY (MR. B. E. B.)

	Before CO_2 Baths.						After CO_2 Baths.			
1908 Oct.	Pulse.	Blood-Pressure.	Temp.	HCl. c.c.	Na_2Co_3 Gm.	Duration, Min.	Pulse.	Blood-Pressure.	Remarks.	Wgt.
7	64	105	91	400	800	10	66	115	Dry rub, rest 25 minutes.	171¼
9	64	105	90	500	1000	11	72	115	Dry rub, rest 25 minutes.	...
12	64	110	89	600	1200	12	64	125	Dry rub, rest 25 minutes.	...
15	72	105	88	700	1400	13	76	115	Dry rub, rest 25 minutes.	172
17	68	105	87	800	1600	14	72	110	Dry rub, rest 25 minutes.	...
28	68	120	86	900	1800	15	72	145	Dry rub, rest 25 minutes.	...
31	72	150	85	900	1800	16	72	150	Dry rub, rest 25 minutes.	171½
Nov. 5	68	130	84	700	1400	13	60	146	Dry rub, rest 25 minutes.	170
7	64	125	84	700	1400	13	44	145	Arc L. before bath 10 minutes. Dry rub, rest ½ hour.	...
14	60	125	87	800	1600	14	66	143	Arc L. before bath 10 minutes. Dry rub, rest ½ hour.	170

Nearly five years have passed since the above was written and time has demonstrated that the institution fills a real need. Furthermore, it has won the confidence of the medical community. Recently a circular letter was sent to 2,000 physicians in and about Boston asking them if they approved of our establishment and inviting criticism. Ninety-eight per cent. of those who replied wrote in commendation of the work.

PRESENT ORGANIZATION

In December, 1908, the enterprise was incorporated under the name of the "Institution for Physical Therapeutics." This placed it on a proper financial basis. If the institution had failed previously, or if suit had been brought against it, the committee of three physicians would have been liable for any amount. The capital stock of $10,000 is divided into four hundred non-assessable shares of $25 each. A circular letter was sent to every physician in eastern Massachusetts setting forth the purposes of the organization and inviting subscriptions for stock. The corporation is governed by a board of nineteen directors, consisting of seventeen physicians, one lawyer and one financier. The details of management are in the hands of an executive committee composed of five directors, including the president, Dr. J.

No patient is treated unless he brings a prescription from a physician. A detailed record is kept by the operator of each treatment. Accompanying is the record in a case of slight cardiac insufficiency for which carbon dioxid baths were prescribed.

The chief attendant reports to the director daily the name of each new patient and the immediate effect of the treatment. The majority of treatments come under the head of stimulating or tonic procedures. These consist of a cold application to the warmed skin. If the cold procedure prescribed is not too intense for the individual's reactive powers a good reaction always results provided the treatment is properly given. If a good reaction is obtained, then the effect, so far as the attendant is concerned, is satisfactory. The following day the physician is informed that his patient has had the first treatment and a note is added in regard to the reaction. Last year when a physician referred a patient to the institution for the first time a letter like the following was sent to the doctor:

> Our chief attendant reports that your patient, ————, took his first treatment yesterday at the Medical Baths and a good reaction was obtained.
>
> We are urging all physicians who are sending patients to the baths to familiarize themselves with the details of modern

hydrotherapeutic technic. No one can doubt that hydrotherapy, the most important of all the forms of physical therapy, will play as important a part in the therapeutics of the future in America as it does to-day in Germany.

If physicians accompany their patients for the first few treatments they soon gain a working knowledge of hydrotherapy, and the effect of the doctor's presence on the patient as well as on the attendant is beneficial. When patients begin a course of hydrotherapeutic treatments they are frequently apprehensive and distrustful. Those physicians have obtained the best results who have been present at one of the first treatments. They have been able to arrange or to discuss with the attendant the details of the hydrotherapeutic procedure and to observe its immediate effect. If this plan is followed it will be found that the patients take up the course of treatments with more confidence and earnestness. This is particularly true in the case of neurasthenic patients in whom the psychic effect of the treatments is especially pronounced.

EQUIPMENT

The chief apparatus is as follows:

1. Electric light cabinet. This is an octagonal box lined with plate-glass mirrors and lighted with eight rows of six incandescent lights.
2. Two cabinets for hot-air and vapor baths.
3. Incandescent electric light bath for treating single parts of the body.
4. Arc-light with reflector for local treatments.
5. Local hot-air bath.
6. Douche-table with which a large tank for hot water and a pressure pump is connected. Temperature and pressure are completely under the operator's control.
7. Circular douche (needle-bath).
8. Rain douche (shower-bath).
9. Horizontal douche (spout).
   (a) Jet douche.
   (b) Fan douche.
10. Ascending or perineal douche.
11. Sitz-bath.
12. Porcelain tub used for
   (a) carbon dioxid baths.
   (b) electric baths.
   (c) half-baths.
   (d) full baths.
13. Electric cabinet (galvanic, faradic and sinusoidal).

FORMS OF TREATMENT

They can be divided into two classes, (1) the general and (2) the local. Most of the general treatments can in turn be separated into the stimulating and the sedative.

The immediate object of the stimulating or cold-water treatments of short duration is to produce a good reaction.[1] One understands by a reaction the secondary dilatation of the cutaneous vessels which follows their primary contraction produced by the stimulus of the cold water. There is an increased flow of blood through the dilated vessels, the skin reddens and there is a pleasant sensation of warmth, often accompanied by a feeling of well-being.

To promote a good reaction the skin should be warm and filled with blood before the application of the cold water. For this purpose we use chiefly electric light baths of short duration. Formerly hot-air baths were employed, but light baths are more satisfactory. In general the colder the water, the shorter its application; and the greater the force of impact on the skin, the more prompt and intense the reaction.

The mode of drying the patient and the after-treatment are important considerations in the production of a reaction. Rough towels should be used and vigorous friction applied to the body. If the individual is weak and anemic it is well after the treatment to put him to bed well rolled up in blankets and, if a reaction does not promptly develop, to place hot-water bottles at the feet and over the spine. If the patient is strong and vigorous it is advisable for him to dress without delay and take a short, brisk walk which will promote the reaction. Active measures are always better than passive, unless the patient is enfeebled. Hence, a walk after the treatment is better than massage if the condition of the patient permits.

Failure to understand the nature and significance of the reaction accounts for many mistakes in preparing hydrotherapeutic prescriptions. A measure of the reactive power of the patient can be obtained with the procedure known as the ablution with friction. This is the *Teilwaschung* of the Germans. It is the mildest general treatment, and can be employed to advantage even in the treatment of feeble, bedridden patients. The water is best applied with a wet bath mitten. One part of the body after another should be rubbed, first with cold water (50-75) and then with a rough towel. If the circulation is poor alcohol may be added to the water. The skin of the part treated should become red and warm. The intensity of the local reaction furnishes a guide to the selection of the proper tonic measure. If a good reaction is obtained with the ablution, stronger measures may be used, of which the douches have the greatest range of usefulness. A prescription that I often give is the following:

℞.

Electric light bath for.....5 to 10 minutes
Circular douche at 105°.....30 seconds
Circular douche at 90°.....30 seconds
Jet and fan douche to entire body at 70°..20 seconds
Pressure, 10 pounds.

Repeat daily, gradually increasing pressure of jet douche and lowering terminal temperature until pressure of 20 pounds and temperature of 60° are used.

The following is a list of general stimulating treatments:[2]

1. The ablution (wet mit. friction).
2. The wet-sheet rub.
3. The half bath. Temperature, 70 to 85. Duration 1 to 5 minutes.
4. The douches:
   (a) circular douche, 60 to 70. Pressure, 8 to 15 pounds; duration, 50 to 60 minutes.
   (b) Jet and fan douche, 60 to 75. Pressure, 10 to 25 pounds.
5. The faradic electric baths. Temperature 90 to 93.
6. The carbon dioxid baths. Various strengths; temperature 85 to 92. Duration, 7 to 15 minutes.

The chief sedative treatments are as follows:

1. The wet pack.
2. The dry blanket pack.
3. The hot-air bath. Temperature, 115 to 140. Duration, 15 to 25 minutes.
4. The electric light bath. Temperature, 110 to 140. Duration, 15 to 30 minutes.
5. The neutral full bath. Temperature, 90 to 93. Duration, 10 to 45 minutes.
6. The hot full bath. Temperature, 104 to 108. Duration, 5 to 10 minutes.
7. The galvanic bath. Temperature, 90 to 93. Duration, 5 to 15 minutes.
8. The sinusoidal bath. Temperature, 90 to 93. Duration, 5 to 15 minutes.

1. The cold procedures of longer duration so valuable in combating infectious fevers are not discussed in this paper.

2. The technic of the different procedures will be found described in detail in the excellent works of Matthes, Baruch, and Kellogg on hydrotherapy.

Local treatments with heat produce hyperemia and are used chiefly to relieve pain, to lessen inflammation, and to improve the nutrition of the affected part. They are most useful in the treatment of the various joint troubles, neuralgia, neuritis and muscular affections.

1. Electric light (incandescent) bath.
2. Arc light with reflector.
3. Hot-air bath.
4. Hot-air douche.
5. Hot-water douches:
   (a) Simple hot douche.
   (b) Scotch douche.
   (c) Alternating douche.
6. Fomentations.

Of the various treatments given in the above list we use the electric-light bath, the wet mit friction, the circular and horizontal douche and the carbon dioxid bath more than all others combined. The hot-air and vapor baths are rarely employed, as their place has been taken by the electric light bath. Nearly all patients object if the hot-air bath is substituted for the light bath. The light bath of short duration usually produces the sensation of a pleasant stimulation, while a hot-air bath often gives rise to a slight feeling of oppression. Sweating occurs more quickly and at lower temperature in the light bath.

Simplicity in prescribing is well nigh as important in hydrotherapy as in pharmacotherapy. In some American sanatoriums a confusing variety of treatments are given to a single patient. This practice has all the faults of the ordinary "shotgun" prescriptions and at the end of several weeks it is impossible to decide which of the various procedures used has had a beneficial effect.

In writing prescriptions the exact temperature of the water should be stated and the exact duration of treatment. Cold water and hot water are relative terms. Tap water is commonly regarded as cold water. Yet it varies in Boston from 40 degrees in winter to 75 degrees in summer. It should be remembered that hydrotherapy is really thermotherapy, for it is the heat of the water and not the water itself that is the therapeutic agent. A full tub bath at 80 degrees, of five minutes' duration, has a tonic action, but a full tub bath of 92 degrees, of fifteen minutes' duration, has a pronounced sedative effect.

INDICATIONS OF HYDROTHERAPY

Hydrotherapeutic procedures are of value in the treatment of almost all chronic diseases. I have found them of great help in improving the general condition of patients. An increase in appetite and a better circulation of the blood in the skin and subcutaneous tissues is usually observed; and there is a beneficial action on the peripheral nervous system and increased functional activity of the skin.

The importance of hydrotherapy in anemia, in malnutrition, and in convalescence from acute diseases is not sufficiently recognized. As it can lessen pain and give a sense of physical comfort, it has a wide field of usefulness in the care of patients suffering from incurable and fatal diseases. Special emphasis should be placed on the fact that the simple physical measures can often replace the objectionable narcotics in the treatment of chronic maladies. A patient with tabes who had not had a good night's sleep for six months owing to lightning pains was able to sleep and to keep at his work an entire season with the aid of neutral and carbon dioxid baths without recourse to analgesics or narcotics.

Hydrotherapy is a most useful measure in cases of psychoneurosis that present somatic manifestations or in which the physical condition is not good. I have employed it with benefit in psychasthenia and other mental disturbances. Hydrotherapeutic measures given by skilful attendants in a well-equipped and well-conducted institution have an important psychic influence for good. This is increased by the general sense of refreshment and invigoration produced by the reaction that follows a stimulating procedure. In individuals who are not readily suggestible definite sensations of physical well-being are often necessary before there can be any improvement in the mental condition. Hope of recovery is not infrequently strengthened as a result of a good reaction, and fears and anxieties temporarily cast aside.

Cold applications exert a definite influence on the will-power, the effect of which on the psychical condition, as Brieger points out, should not be underestimated. The patient is subjected to cold stimuli, which often produce unpleasant sensations, especially at the beginning of the treatment. Sooner or later the patient realizes the beneficial action and then willingly submits to the initial feeling of discomfort. This develops increased mental stamina. Hydrotherapy should, of course, form only a part of the treatment, and other measures, such as diet, rest, isolation, exercise, work, and drugs, should be used as indicated.

The great majority of the patients sent to our institution have been affected with various forms of psychoneurosis. There have been many joint cases, not a few of which have been arthralgias of psychic origin, although most of these were mistaken for chronic rheumatism. The number of patients with arthritis, anemia, nephritis, neuralgia, neuritis and other organic diseases have been small. It is hoped that as knowledge of hydrotherapy increases among the profession it will be used more in these conditions. In Berlin during a space of less than three years 504 cases of sciatica were treated by Brieger in the hydrotherapeutic institution of the university. During the same period we treated less than half a dozen cases of sciatica in our institution, yet there was no other place in Boston where the methods employed by Brieger were available. This means that many sufferers from the disease in Boston were denied the most approved treatment for the subacute stage.

In disturbances of psychic origin the immediate effect of the treatment on the mind of the patient can never be predicted. Sometimes there is speedy improvement, but often subjective symptoms remain unchanged or are increased after the first one or two treatments and the idea gets fixed that no benefit will result. But persistence in treatment over weeks and months often leads to great improvement or even cure in this class of cases. Success depends largely on the masterfulness of the physician in charge. Dr. Baldwin has shown that remarkably good results can be obtained in time even in severe psychoneuroses if the doctor is tactful and controls the patient with a firm hand.[3]

Many cases of neurasthenia are seen in which it is difficult to determine whether a stimulating or a gentle sedative treatment is indicated. Every patient must be studied individually, and it may take some time before the proper procedure is found. No two cases are quite the same. As George Beard truly said, "If two cases are given the same treatment from beginning to end it is probable that one of them has been improperly treated." I have sometimes followed the practice of Binswanger

3. Baldwin: The Personal Element in Prescribing Hydrotherapy Boston Med. and Surg. Jour., 1909, clx, 468.

in giving three different treatments on three successive days. After these have been repeated once or twice the treatment which seems to the patient to be most beneficial is selected. Usually one of the procedures will be condemned and one favored. In this way the support and confidence of the patient is gained.

The following sample outline of treatment is given as a suggestion:

First Day: Electric light bath, 5 to 10 minutes, followed by wet mit friction.

Second Day: Carbon dioxid bath (half full strength), 10 minutes.

Third Day: Wet pack, duration 45 minutes to 1 hour.

Repeat treatments in the same order on the fourth, fifth and sixth day.

From half an hour to an hour of physical and mental rest should follow each treatment, unless the patient is robust and with good reactive powers, when a brisk walk may be substituted. Often it is a good idea to combine rest and exercise by having the patient dress quickly, walk a certain distance and on reaching home rest in bed for thirty minutes to an hour. A good proportion of the neurasthenic patients wish to discontinue treatment after the first or second bath has been taken. In many neurasthenic women a feeling of exhaustion comes on a short time after the treatment and persists the remainder of the day. This is usually regarded both by physician and patient as evidence that the hydrotherapeutic procedure has been too strong, but, as this temporary exhaustion develops after the mildest treatments and as it almost invariably disappears after the second or third treatment, the sensation of weakness is undoubtedly due in the great majority of cases to the nervous strain of the visit to the institution. The surroundings are new and the appliances are strange and somewhat formidable in appearance. I have known even physicians to appear nervous and apprehensive when placed in the electric light cabinet for the first time. Recently I saw a patient in whom weakness and depression persisted until the sixth treatment. Since then she has felt refreshed and invigorated after the bath for the rest of the day. It was possible to prove beyond question in this instance that the weakness was of purely psychic origin because the patient felt as tired after a mild treatment (wet mit friction) as after a strong one (circular and horizontal douche).

For patients who cannot afford daily treatment at our institution I prescribe three treatments a week at the Medical Baths and a home treatment in the form of a neutral bath, or half bath, on the other days. It is well to have the home treatment taken at the same hour as that at the institution.

After considerable experience with carbon dioxid baths in the treatment of cardiac insufficiency I can only say that they have seemed to be decidedly beneficial in certain cases. The carbon dioxid baths raise the blood-pressure and produce in some instances a transitory reduction of cardiac dilatation. Often I have failed to note any improvement, and never when the heart muscle was markedly weakened. In the cardiac neuroses they are of undoubted value. Care must be exercised to select a bath of proper strength. Weak hearts are frequently overtaxed by strong baths. I have observed cases in which the congestion-dilatation of the heart was distinctly increased by the bath. If there is a fall in the blood-pressure after the bath (temperature 87 to 92 F.) it indicates that the heart is weak and the bath too strong. We usually begin the treatment with a bath one-fifth or three-tenths full strength.[4] The attendants take the blood-pressure before and after every carbon dioxid bath. I have found that the action of baths of different strength on the blood-pressure furnishes a useful method for determining the functional power of the heart muscle.

INFLUENCE OF THE INSTITUTION IN ADVANCING PHYSICAL THERAPEUTICS

The facilities of the Boston establishment have been utilized at different times during the past five years by about 200 physicians in the treatment of their patients.

Since the opening of this institution several Boston hospitals have installed hydrotherapeutic equipments. Several skilled attendants employed in local hospitals were trained in the technic of water treatments at our institution.

Demonstrations in hydrotherapy have been given to students of the different medical schools in this city.

Our organization, cooperating with local medical societies, has secured several addresses by prominent physicians on hydrotherapy and other forms of physical therapeutics.

Reprints of articles on hydrotherapy have been sent to over 2,000 physicians in eastern Massachusetts.

The institution has been visited by physicians from many parts of the country and establishments patterned in a measure after ours have been started in other places.

313 Beacon Street.

ABSTRACT OF DISCUSSION

DR. JOHN A. LICHTY, Pittsburg, Pa.: Such an institution as described by Dr. Pratt is, I think, a necessary adjunct to the physician's armamentarium. If the physicians do not become active and take up this matter, the quacks will, and with great harm to the patients. All of us no doubt have had the same experience. I have in mind one patient with loss of cardiac compensation, enlarged liver, etc., who went to an ordinary masseur, or a man who called himself "professor of hydrotherapy" to have his enlarged liver reduced in size. The massage and exercises prescribed led to serious results. This I have seen frequently, and I believe we should protect ourselves against these men. Unless we establish such institutions, we will be at the mercy of these men. The difficulties mentioned I believe to be the difficulties one would expect naturally in trying to treat ambulatory patients. It is difficult to prescribe a treatment to be taken in the patient's home. If the patient will go to a hydropathic institution, he will go to the physician's office. If a woman is to take the treatment, she dresses, goes down the street, takes the treatment and then goes to a department store to do her shopping. The good that follows the carrying out of such a course, under such difficulties, is small. In Pittsburg, such an institution is about to be opened, and I think we shall get good results from it. If we could send patients to Boston and have them devote the time necessary for the treatment in Dr. Pratt's institution, I know good results will follow; I also believe that if those patients who were not much benefited at his institution in Boston, were sent to a similar institution at Pittsburg, away from their home and environment, in all probability good results would follow. These patients take the treatment much better in institutions devoted to that purpose. In this country the watering-places and institutions are not manned as in other countries. Some of the best scientific work originates in some of these establishments in Europe. Good men are there to watch their patients carefully and prescribe the treatment to be employed. There are very few institutions in this coun-

4. Detailed directions for preparing the baths are given in Matthes' Lehrbuch der klinischen Hydrotherapie, Edition 2, Jena, 1903, and in Romberg's Lehrbuch der Krankheiten des Herzens, Stuttgart, 1906.

try where the patients can be so treated; what is being done in this line, however, is being appreciated. At these watering-places the patients can enjoy themselves. The treatment in this country is a business; there is no amusement, no enjoyment for the patients in the institutions we have here. It is different in the watering-places in Europe. One advantage that is coming from the establishment of these institutions is the education of helpers so that the treatment may be carried out in the patient's own home. I am sorry Dr. Babcock is not here to tell of the Nauheim treatment as he has it carried out in the patient's own home. Nauheim himself has stated that it cannot be done at home; but Dr. Babcock has proved that it can be done and with very satisfactory results when the conditions can be entirely controlled.

DR. G. C. SMITH, Boston: Dr. Pratt's work in Boston is well known throughout the New England States, and especially in Massachusetts, while in the South and West people have heard much less about it.

One or two points suggested by the paper I would like to touch on. There is a class of cases in which I have found hydrotherapy especially adapted, namely, vasomotor conditions with a neurotic etiology; also vasomotor conditions arising from a failing heart in cardiac disease, a condition so often seen in young boys and girls. These conditions are quickly relieved by hydrotherapeutic measures. Often patients who have been very little benefited by drug treatment can be satisfactorily treated by good sanitary measures, open-air life, proper diet and hydrotherapy, and show rapid improvement under such conditions. Other patients who do much better in America than abroad are the patients with broken compensation. This is my opinion after a study of the institutions abroad. The reason is that the physician knows the patient and is interested in him; he knows all the individual's idiosyncrasies. At Nauheim or other sanitaria abroad the patient is treated more largely from a cardiac standpoint which does not always work out well. I have had many patients try the Nauheim treatment, and they still continue to try it. They go abroad and spend from four to six weeks, and sometimes it is claimed that the transverse cardiac dulness has been reduced two inches in that time. That is absurd. The only way to do away with the stupendous outflow of the misinformed and misled from this country is to let the real facts be known. I know of several individuals in Boston who have been treated at Nauheim and other spas abroad who now make it a regular thing to consult the family physician in Boston and have a thorough examination before going. On their return they do the same thing. In these patients we cannot find the same diminution in the cardiac dulness as the foreign physicians claim. I am sure that hydrotherapy does help these patients. It must be remembered that many patients who have cardiac disease must be treated at home, and that this number is much greater than the number going abroad.

DR. ANDREW MACFARLANE, Albany, N. Y.: The first duty of the physician is to cure his patient, and there is no question that the true way to do this is to find out the cause of his difficulty and remove it. This, however, does not appeal to the popular mind. Consider what has been done to stop the spread of smallpox by vaccination and to prevent typhoid fever by a pure water supply; the citation of such facts, however, does not present an argument to the average popular mind that will have any marked influence. If a patient with a stiff joint consults physicians, they are likely to give him pills, solutions, powders and liniments and often without much effect. The patient then goes two or three times to an osteopath, gets as many treatments and is benefited. He then is convinced that the osteopath is a better physician than the regular practitioner. He certainly is to that extent. The great mistake is that the medical profession does not appreciate the value of physical therapy. Physicians rely too much on giving prescriptions and then sending the patient home.

In New York State there is a man who conducts a successful sanatorium; he is an ex-prize fighter. Yet his place is frequented not by the ignorant, but by the most intelligent men in the United States. I regard it as a disgrace to the entire medical profession that an ex-prize fighter should be able to do, and to do successfully, what a scientific profession is not doing. In our various efforts to secure proper legislation in New York State we had the greatest possible difficulty in proving that the so-called regular medicine was better than fake medicine.

After taking the baths at the foreign spas the patients rest. I have visited many spas in Germany and I am fairly well acquainted with the conditions existing there. The Germans have developed the scientific side of metabolism in these watering-places to an extent which we would do well to copy and imitate.

I believe that the subject that Dr. Pratt has brought up is a most valuable one, and I have no doubt but that great advances will be noted in it during the next fifteen or twenty years; but we must not expect much from it in three, four or five years. This is, however, a subject that will bear much and good fruit in time.

DR. JOSEPH H. PRATT, Boston: It is true that many patients with neurasthenia and other forms of psychoneurosis can receive better treatment in a suitable sanatorium than at home, but sanatorium treatment is frequently out of the question owing to the expense. Boston physicians have been gratified at the good results obtained by home treatment combined with systematic hydrotherapy in their local institution. In addition to the hydrotherapeutic treatment itself, the daily visit to the baths, the association with a kindly and cheerful attendant or nurse, the half-hour or hour of rest before dressing, often have a marked influence for good on both mind and body. Furthermore, the institution is an aid to the physician in his supervision of the case. If a patient is told to take a treatment at a certain hour daily in our establishment, it is an easy matter to find out whether he does so or not. A report is sent to the physicians, if requested, of the number of treatments taken by each patient and the date of each treatment.

In the management of patients with chronic organic disease, treatments at the medical baths have been of aid in encouraging the patients to persevere in following an unpleasant or exacting regimen. This is true in cases of nephritis, obesity, diabetes and heart disease. In 1905 I saw with Dr. Daniel a woman with chronic nephritis who had been ill a year. She had marked general anasarca and the day urine contained over 1 per cent. of albumin. The essential features of the treatment instituted were electric-light baths and a salt-free diet. She objected strongly to the diet, but did not abandon the plan of treatment because she felt that the light baths were beneficial. Afer three months the edema had disappeared except for a slight swelling of the legs. When last seen, three years later, the edema had not recurred and the urine contained only a slight trace of albumin. It is probable that her recovery was due more to the salt-free diet than to the light baths, yet without them she never would have continued with the diet.

It is strange that American physicians who send patients to Nauheim make so little use of artificial carbondioxid baths. Krehl, Romberg and other German authorities recommend and employ in their clinics the artificial baths. There are over a dozen natural carbon-dioxid baths in Germany used in the treatment of heart disease in addition to those at Nauheim. Two patients with cardiac disease whom I referred to a leading German consultant were sent not to Nauheim, but to Homburg. What I have learned from patients returned from Nauheim bears out Dr. Smith's statement. Treatments are often given there with inadequate supervision.

There is need of a thorough and unprejudiced investigation of the effects and value of carbon-dioxid baths, and this can well be carried out in establishments like the one described.

Infant Feeding.—It has been found by those who have studied the matter that one of the most potent causes operating to prevent or diminish maternal nursing is the ignorance of the mother as to what breast-milk really means to the child. For this state of things the remedy is instruction. Mothers need to be told in no uncertain tones that if they are able to nurse their babies and do not do so, they are morally responsible for the sickness and death resulting from their neglect. Few women possessed of any maternal instinct will refuse to nurse their children if this is made clear to them.—J. M. Connolly in *Hygiene and Physical Education.*

THE HISTORY OF TWO CASES OF CONGENITAL PYLORIC SPASM

WITH REMARKS ON THE ETIOLOGY AND TREATMENT *

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The title of this paper is a misnomer, if it conveys the impression that by "pyloric spasm" is meant the mild and common affection described by Pfaundler[1] and Cautley[2] under this name and evidently considered by them a condition quite distinct from and not likely to be confounded with congenital hypertrophic stenosis, but which, from the description of these writers, seems identical with the habitual or chronic vomiting of infancy. An unbiased study of the already voluminous literature on this subject is, to my mind, convincing that there occurs, under the term "congenital pyloric stenosis," a group of cases in which spasm of the pylorus and adjacent gastric walls is the principal, and often the only, abnormal condition present. This group comprises the majority of the cases of so-called congenital pyloric stenosis encountered in practice, and embraces those of infants who recover entirely under intelligent dietetic and other measures. It is the existence of this group which has given rise to the great confusion and division among observers as to the nature of congenital pyloric stenosis, and as to the means to be adopted for its relief—one class insisting that medical measures are sufficient for a cure, the other being equally positive that only surgical intervention can bring about permanent recovery. Notwithstanding that Heubner[3] places the incidence of pyloric spasm as but 0.5 per cent. of all children's diseases, the condition is not so very uncommon; a physician who sees many sick babies must encounter from time to time instances of the affection and although my cases might well, from the symptoms and history, be considered as mild instances of congenital pyloric stenosis, I believe that they come under the category of simple pyloric spasm, and as such they are reported.

REPORT OF CASES

CASE 1.—*History.*—G. B., a male, the first child of its parents, both of whom are and were healthy, although the mother suffered much from nausea during her pregnancy, was born after a natural labor, weighing 8 pounds. The child was suckled successfully by its mother, and weighed, at three weeks, 8¾ pounds. At this time, its illness began with occasional vomiting. This gradually increased, until it soon vomited after every meal, sometimes in small, sometimes in large quantities—now and then, more than it had swallowed at one meal. Obstinate constipation followed, the movements, which were quite natural, occurring only with enemas. Rapid loss of weight ensued, and the infant was taken from the breast. In rapid succession, condensed milk, malted milk, barley-water and egg-water, whey, and whey and cream, were tried. Of these foods, whey was the most successful, four ounces being gained in five days on it, when vomiting and loss of weight again set in.

Examination.—I saw the infant first on Oct. 2, 1908. It was then 12 weeks old, and weighed 7 pounds. It was thin and emaciated, and cried continually; the tongue was clean, and the breath sweet. That morning, it had the first spontaneous movement in five days—of good color, smooth and well digested. There was, therefore, beyond a certain amount of colic and gas, no evidence of indigestion. The abdomen was large above, and somewhat retracted below the navel. Apparently, the stomach was normal in size; but, as I have never been able to demonstrate to my own satisfaction the situation of this organ in infants, it is impossible to speak with certainty as to this point. Peristalsis could not be detected on the abdominal surface, nor could the pylorus be felt. All the other organs were normal. From this time the infant was under constant observation. The vomiting, I noted, was often explosive, often shooting out one to two feet from the baby; but at other times the stomach-contents were simply gulped up in quantities varying from a mouthful to two-thirds of a bottle; the vomiting was preceded quite frequently, with pain and contraction of the abdominal muscles. It was never especially acid, and always unaltered, whether the child was taking whey or the food on which it was afterward placed.

Treatment.—A mixture of condensed buttermilk (1 part buttermilk to 7 of water, of which 25 per cent. was lime-water), was given, two ounces every two hours, and daily lavage was instituted (salt-solution and sodium bicarbonate, one dram to a pint). After several passages of the tube, it was discovered that the stomach was never empty until two hours and three-quarters to three hours after feeding; and then, only when two ounces was given. Hence, the intervals of feeding were lengthened to three and a half hours, and the mother was instructed always to postpone the feeding half an hour, if, at or just before the meal, the child vomited. At first, the buttermilk caused diarrhea, as it often does; but this was quickly controlled with bismuth. Several examinations of the stomach-contents were made: Free hydrochloric acid was never present; the total acidity averaged 66 (about normal); pepsin-reaction was slight. Conclusive evidence of the hypertrophy, or, at least, the overaction of the pylorus and the stomach-wall, was given by the vigorous way in which the stomach would contract on the tube, after a certain amount of water had been introduced,—seizing it, and throwing its entire length into vibration; at the same time, forcibly pumping out the water, as if from a powerful syringe. After the infant had been under observation about a month, I first saw visible gastric peristalsis, and on several occasions thereafter; it was at times, feeble, at times, forcible and well marked. The progress of the child was extremely slow, and retarded by many set-backs. During these relapses, the weight would remain stationary or be lost; to be regained, as the vomiting ceased or diminished. The strength of the buttermilk and the quantity given was gradually increased; then whey was slowly added, and, finally, 20 per cent. cream; at first in small (half-dram) doses with each feeding. This process was continued until all the buttermilk had been discarded, and the baby was entirely on a cream-and-whey mixture. Further rehearsal of details would be tedious. The infant gradually recovered; the vomiting became less and less, and now, at the age of 10 months, the child weighs 22 pounds, all vomiting having ceased for a month.

This case, I believe, was one of simple spasm of the pylorus and adjoining gastric walls. It illustrates how patient, persistent and intelligent dietetic experimenting will often bring cases of this nature to a happy conclusion. More than once during its course was the question of operative interference considered; but a little more waiting always cleared up the atmosphere, so that, with the consequent improvement, the idea was dismissed.

CASE 2.—This infant, also a male, was first seen on Aug. 1, 1908, at the age of 5½ months. It then weighed 7½ pounds, having weighed 9 pounds at birth. The parents were healthy. The birth had been normal, and the baby had been vigorous for almost three weeks thereafter, when vomiting began. On account of this, it was weaned, and a modified milk-mixture was given. This not agreeing, whey, pasteurized whey, milk prepared with peptogenic milk-powder, condensed milk, and, finally, Eskay's food, were tried. Peptogenic milk seems to have been the most successful of these. Under its use, the vomiting almost ceased, and the weight, for a time,

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Pfaundler and Schlossmann: Handbuch der Kinderheilkunde, ii, 18., 181.
2. Cautley, E.: Brit. Med. Jour., Oct. 13, 1906, p. 939 et seq.
3. Heubner, O.: Arch. Pediat., July, 1908, p. 555, abst. from Therap. Gegenw., October, 1906, p. 433.

increased. When seen, the child was much wasted and very constipated, with one smooth, well-digested movement by enema daily. It was vomiting practically everything given; sometimes immediately after, sometimes long after, the three-hour feedings. The vomiting was at times projectile in character, being thrown out a foot or more from the patient. It was often very acid; and again, not at all. Of late, it had contained large quantities of mucus and gas. The upper portion of the abdomen was enlarged, and I thought that the stomach was dilated, as apparently it reached to the navel. Visible gastric peristalsis was not observed. The infant was bright and hypersensitive, starting suddenly at the slightest noise. A weak mixture of buttermilk-conserve (1 part to 6 of water, of which 33 per cent. was lime-water), three ounces every three hours and a half, together with hot epigastric applications, were advised; no medication. At first, improvement was noted; then loss. At the end of the month, however, a pound had been gained. (The buttermilk had been increased to 1 part to 4; the proportion of lime-water, 33 per cent., still being maintained). Because of the large amounts of mucus ejected, lavage with salt and bicarbonate of sodium (1 dram of each to 2 pints) was instituted. Whenever it was employed, diminution of vomiting and gain in weight resulted; but, owing to the mother's unwillingness and inability to carry it out, this procedure was used only at infrequent intervals. As the tube usually showed that the stomach was not empty until almost four hours after a feeding, the bottles were given at this interval (six times a day); and the mother was told to postpone the meals, if vomiting occurred at the time they were due. The progress of this baby was slow and painful, beset with relapses and most disappointing losses in weight. Notwithstanding this, the steps were slowly upward; after four months of treatment, the weight was 10 pounds (a gain of 3 pounds). After the buttermilk had been gradually increased to 1 part to 3, it was slowly replaced by fresh buttermilk (with 3 per cent. cane sugar and 1.5 per cent. wheat flour). Every attempt to add whey or cream to the mixture was followed by disaster. At these times only was the vomitus very acid; (usually it contained no free hydrochloric acid, with a total acidity of about 50). When fresh buttermilk was given, the lime-water was replaced by citrate of sodium (1 grain to the ounce); and that this was beneficial, was shown by an increase of vomiting on its withdrawal. To compensate for the small amount of food tolerated by the irritable pylorus, the former was strengthened by somatose and beef-juice (1 to 2 drams), with how much benefit, it is impossible to say. After the eleventh month, the vomiting diminished materially; so that now (thirteen and a half months) several days will often elapse without its occurrence, and the child weighs 14 pounds, has four teeth, and is undoubtedly on the way to complete recovery. At no time was visible gastric peristalsis observed.

The question as to the diagnosis in this case may be raised. I am sure, however, that it was one of pyloric spasm of extreme and obstinate degree, to which, from a long series of dietetic errors (five months) gastric distention and catarrh had been added. The expulsive vomiting, the early history, and the fecal movements of natural character, are sufficient to exclude simple chronic indigestion and pyloric stenosis. This case illustrates, even more than the first, how persistent and intelligent efforts at feeding will often bring success in the most obstinate instances of this affection. If there had been opportunity to have the infant under closer observation and control, it is possible that the improvement might have been more rapid.

Congenital pyloric spasm and congenital hypertrophic pyloric stenosis, though usually separable clinically, stand in close genetic relationship to each other. Hence, in considering the nature and etiology of pyloric spasm, a brief summary of its symptoms and of those of hypertrophic stenosis will not be out of place. The subjects are usually males. They are born healthy. They are commonly breast-fed. The vomiting begins from the third day to the third week, or later. It is without apparent cause, and may be very acid or entirely unaltered in character, and is often expulsive or projectile, and may exceed the amount taken. There is constipation, obstinate or partial, according to the amount of narrowing or spasm. Signs of indigestion or gastric catarrh are usually absent, at least in the early stages. Exaggerated gastric peristalsis, feeble or intense, from left to right, is almost always sooner or later observed. In the minority of the cases a mass is palpable in the pyloric region. There is rapid loss of flesh, keeping pace with the amount of vomiting. Pain (from spasm) is often present. The food remains in the stomach longer than the usual hour and a half, viz., from two to four hours.

This group of symptoms exists in greater or less degree, according to the nature of the case; whether it be one of pure or partial spasm or of true stenosis, and differs entirely from the habitual or chronic vomiting of infancy, in which there are always the evidences of indigestion, so conspicuously absent in the condition we are considering.

The conception of Koplik as to the relation and nature of the affections variously considered as pyloric spasm and pyloric stenosis seems reasonable and probably correct, namely: that in some of these cases there is simply pyloric spasm alone; that in others there is added to this some hypertrophy of the circular fibers, causing a more or less distinct narrowing of the orifice of the pylorus, but not sufficient materially to narrow its lumen, and permitting of the free passage of food in the absence of spasm; and that in still another variety the narrowing of the pylorus is so great as practically to close the opening, so that an actual stenosis exists. This last group comprises but a minority of the cases and includes those of patients relieved by operation alone.

That there may be a distinct anatomic change in the pylorus, and yet recovery ensue, although the pathologic condition remains, is shown by the case of Batten[4]: this patient exhibited the ordinary symptoms of hypertrophic stenosis and gradually recovered; but, at death, long after, was found to have the usual muscular hypertrophy of the pylorus. I think that the weight of evidence goes to show that in all cases spasm is a prominent and ever-present symptom, and is the cause of the symptoms observed during life; and, as in Batten's case, may and does subside, and yet the hyperplasia of the circular fibers persist. It would seem, also, from the purely clinical standpoint, that a simple spasm of the pylorus may exist without apparent anatomic change; yet it appears more reasonable to assume that in all cases there is some pathologic alteration in the structure of the pylorus, although very slight, which, under certain conditions—the swallowing of liquor amnii,[5] inappropriate food (whether from the breast or artificial), hyperchlorhydria, etc.—causes incoordination of the musculature of the pylorus and adjoining gastric walls, resulting, at last, in spasm. In a word, in cases such as I have reported as instances of simple pyloric spasm, there is underlying, as the primary cause of the spasm, a congenital defect of the circular muscle fibers at the pylorus, or of the nerves innervating them.

The relation, therefore, of the cases clinically recognized as pyloric spasm to those in which a true hyper-

4. Progressive Medicine, Philadelphia, March, 1903, p. 218.
5. Thompson, J.: The Clinical Examination and Treatment of Sick Children, Edinburgh and London, Edition 20, 1908, p. 122.

trophic stenosis exists is simply one of degree. Pfaundler's theory that all cases are due to spasm, and that the changes in the pylorus met at operation or autopsy are always secondary, is certainly not borne out by clinical and microscopic evidence.

It is not necessary to dwell at length on the diagnosis of congenital pyloric spasm. Although theoretically its differentiation from the severer hypertrophic stenosis is not difficult, it can not be denied that in practice the obstacles may be great. Usually, however, if, in a given case, a normal or fair amount of fecal matter is passed, it may be concluded that the case is one of spasm, or that no great narrowing exists; or it exists in slight degree, and the spasm relaxes sufficiently to permit food enough to pass into the duodenum to nourish the infant adequately.

TREATMENT

The treatment of pyloric spasm is almost entirely dietetic. Drugs have little or no place. Intelligent, persistent and patient dietetic experimenting, as Koplik[6] has so conclusively shown, seems to be the key-note of success. I have seen now five instances of this affection, of which only two are reported at this time, because the others were observed at a period when the condition was not generally recognized—at least, not fully recognized by me. Most of them passed out of my hands; but I know that all the patients ultimately recovered, some of them, without any particular management. Hence, I conclude that the prognosis is good, if the case is largely one of spasm, as so many of them are.

In the feeding of these infants, it is generally taught that the quantity should be small and the intervals short; but, as it seems unreasonable to put food into an organ that has not rid itself of the last meal, I believe a better rule is to feed only when the stomach is known to be empty. This can be discovered by the passage of the tube; or, in lieu of this, by observing the latest period at which vomiting occurs after a meal, and by always postponing the feeding if vomiting takes place just before or at a time when it is due. The amount to be given is that which observation of the case teaches us will not be rejected in any great quantity. In this way, as the irritability of the stomach is gradually overcome, it will be found that larger and larger quantities will be retained. Theoretically, the infant will not gain flesh on the small amounts (only 16 to 20 ounces often) introduced by this or other methods, but practically I have found that it does, because, especially in severe cases, not half or one-third this quantity has been retained.

Breast-milk, given according to the method described, is the ideal food for these infants. If the milk of one wet-nurse does not agree, another should be tried; and, as the fat is generally not well tolerated, in many cases it may be found advisable to remove this by centrifugation. In artificial feeding, a food which is free from curds and irritating properties, and which will form no coagulum in the stomach, should be selected; such a food is whey, to which completely peptonized fat-free milk, and later cream, may be cautiously added. Buttermilk, notwithstanding the hyperacidity often present in these cases, is valuable on account of its low fat-content and the digestibility of its casein, and has been found effective in many. In my cases, a buttermilk conserve was at first employed, because of its easy preparation, and because it had proved to be a successful temporary food in other cases of difficult feeding. It was slowly replaced, in one case, by whey and cream; in the other, by fresh buttermilk. I always gave it well alkalinized (25 to 33 per cent. of lime-water).[7] In breast-fed infants lime-water may be given before, during and after the feeding, either from a spoon or by means of a medicine dropper, introduced between the nipple and lips. This (an alkali) is, I believe, a valuable addition to the dietary of these cases, whether the milk be fresh or acid. The excessive acidity, so often present, is thereby neutralized, the casein rendered more soluble and its coagulation retarded; and, as we know that relaxation of the pylorus is accomplished through the agency of the alkaline juices of the duodenum, it is not unreasonable to assume that alkaline stomach-contents might have a similar action. Citrate of sodium (1 to 2 grains to each ounce of milk, whey or buttermilk) has been recommended. It has the advantage of smallness of bulk, thereby conserving the nutritive value of the mixture given. In my second case, it was substituted for lime-water, when condensed buttermilk was replaced by fresh. That it had value was shown by the increased emesis whenever it was withdrawn. As a rule, fats of all kinds, whether in the form of cream or of olive oil or cod-liver oil, should be avoided. In my cases, they always provoked disturbance.

Stomach-washing is highly recommended by Sutherland,[8] Cautley, Pfaundler and other authors, and condemned by others. In my hands, it has proved a most valuable resource. So successful may it be in allaying the vomiting and spasm that Cautley warns against wrong conclusions which may be drawn therefrom, as to the nature or gravity of a case—whether it be one of true spasm or of organic stenosis. Lavage should be practiced daily, at first; and, later, whenever there is a return or an increase of the vomiting, or when food remains in the stomach from one feeding to another.

I believe that it also has some value as a diagnostic measure. When much spasm is present, the tube is seized and thrown into vibrations by the hypertrophied and irritable stomach, and the water pumped out much more vigorously than under normal conditions. Usually, simple saline water is sufficient; but if there is much mucus, sodium bicarbonate may be added (1 dram to a pint).

Warm applications and poultices, hot salt-bags or water-bags, and Japanese pocket-warmers, applied to the epigastrium at meal time, and for half an hour thereafter, have been advocated, and gave in my cases considerable comfort.

Drugs to overcome the irritability of the pylorus and adjoining gastric walls occupy, in this affection, a very secondary position. Opium has been recommended, but atropin, chloral, and the bromids would appear to be less objectionable, and more likely to afford relief.

Finally, in the treatment of pyloric spasm, we should never despair, remembering, if we are familiar with the history of the affection, that the most hopeless patients may recover entirely under our observation, if we are able to retain them long enough; and that, as in severe and pronounced cases the diagnosis from true organic stenosis is difficult and often impossible, the question of surgical intervention may have to be con-

6. Koplik, H.: Am. Jour. Med. Sc., June, 1908, p. 1.

7. Moll (Arch. f. Kinderh., 1905, xlii, 327) asserts that in alkaline buttermilk the proteids are more soluble and finely divided, and that tryptic digestion is easier.

8. Sutherland, G. A.: Lancet, London, March 16, 1907, p. 725.

sidered, yet operative measures should always be postponed so long as the infant is not actually and continuously losing weight.

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ABSTRACT OF DISCUSSION

DR. H. M. MCCLANAHAN, Omaha: A case I saw began on the third day of life, the child dying on the twenty-ninth day. Postmortem revealed a stenosis; the lumen of the pyloric orifice would barely admit a fine probe. The patient was very weak and gradually lost weight. I was unable to palpate any tumor. The increase in growth was at the expense of the lumen and not at the expense of the size. Now, is there any way by which we can say that one case is a case of pure spasm and another has an element of true stenosis involved? At the postmortem I regretted that surgical intervention had not been resorted to. In another case, in view of this experience, it seemed to me at the time that surgical interference would be justified, but the patient went on to recovery. The peristaltic wave was so distinct that the nurse could see it. The absence of the peristaltic wave might be evidence of the spastic condition.

DR. D. J. M. MILLER, Atlantic City: These infants are always hypersensitive. They start readily, are easily frightened, and should be kept as quiet as possible. For this reason stomach washing is inadvisable in many cases; and the same applies to rectal feedings. My object in presenting this paper was to show that spasm is a predominant symptom in most of the cases and that operation should always be postponed to the latest moment, for many of these infants will improve under patient and careful dietetic treatment. My second case illustrates this, though still much below weight and though the way was long the child is now practically well. Still I believe that in many cases an operation would do no harm and might be beneficial, although not absolutely necessary.

AN INVESTIGATION INTO THE CONDITIONS SURROUNDING THE CHILD IN SCHOOL *

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At the meeting of the American Medical Association of 1907, following a paper on the "School Child," by W. C. Hollopeter, it was suggested by A. C. Cotton that there be an investigation of school conditions undertaken by the Section on Diseases of Children. As a result a committee was appointed to investigate the present status of the school child; I was appointed for the middle west.

The intention was to cover the entire country, and the division of territory was made north and south. Early in the investigation it was learned that this division was an impractical one, as the school conditions in localities where there are separate schools for the negro were at such a variance from the average that statistics gathered in these localities were discarded and the investigation limited to cities of 25,000 population and upward in the north central states. The data used in this paper were gathered in thirty-four cities, from 904 schools selected at random, representing 369,290 pupils.

The methods used in the investigation were: first, the use of school statistics published by the various educational boards; second, correspondence with school superintendents, principals, teachers, and school inspectors; third, personal investigation.

The report of the U. S. Commissioner of Education for the year 1907 states that there were 16,829,386 pupils in the common schools; 848,191 pupils in the high or secondary schools at a total cost of $330,680,801, or a cost of $3.90 per capita of population, or a cost per pupil of $41.60 per annum.

In twenty-two of the cities under investigation the pupils were divided in the several grades as follows: first grade 87,783, second grade 61,369, third grade 57,703, fourth grade 54,220, fifth grade 50,489, sixth grade, 41,904, seventh grade 35,223, eighth grade 24,998, first year high school 13,858, second year 9,087, third year 5,572, fourth year 3,699.

The average ages taken at the beginning of the school year were first grade, 6 years 4.5 months; second grade, 7 years 10.5 months; third grade, 9 years 2.6 months; fourth grade, 10 years 4.1 months; fifth grade, 11 years 6.3 months; sixth grade, 12 years 4.3 months; seventh grade, 13 years 4 months; eighth grade, 14 years 1 month.

The variation in the ages between the various grades is not to be taken as indicating the average time spent in the grade, as the factors of non-promotion and the dropping out of the over-age child must be taken into consideration. In the primary grades the non-promotion of a large proportion of the pupils, together with the fact that but few pupils withdraw, causes the lengthened average interval, while in the grammar grades non-promotion is one of the chief causes of the withdrawal of the school child; so with non-promotion and the dropping out of the over-age child the apparent average interval spent in the grade diminishes.

The relation of over-age and non-promotion to the dropping out of the school child is shown in the accompanying table which gives the normal age per grade as used in the calculations of this article, the number and percentage of entire class of normal age pupils, the number and percentage of entire class of pupils over age, the number and percentage of class of pupils under age, with the percentage of promotions in the various grades.

TABLE SHOWING AGES AND PROMOTIONS BY GRADES

Grade.	Normal Age: Years.	Number of Pupils. Normal Age	Percentage of Pupils. Normal Age	Number of Pupils. Over Age	Percentage of Pupils. Over Age	Number of Pupils. Under Age	Percentage of Pupils. Under Age	Percentage of Promotions.
1.	6-7	65,001	88	8,863	12			68
2.	7-8	40,073	71	11,473	20.5	4,910	8.5	82.3
3.	8-9	32,252	61.6	14,346	27.4	5,759	11	85.4
4.	9-10	28,090	59	14,759	31	4,761	10	84.8
5.	10-11	25,153	60.5	12,514	30.1	3,908	9.4	82.5
6.	11-12	19,863	60.7	8,210	25.7	4,450	13.6	83.2
7.	12-13	19,988	64	5,496	22	3,407	14	84
8.	13-14	11,238	61.8	2,880	15.7	4,128	22	88

A uniform series of questions was sent to each of the principals of the 904 schools and a second series to some ten thousand teachers in these schools. The questions and such answers as can be summarized are here given, reduced to percentages for the more ready comparison when possible.

PRINCIPALS' SERIES

How many of your pupils are compelled to leave school each year because of ill health? (This includes only cases of general ill health, excluding all acute and contagious diseases and temporary illnesses). Twenty-one per cent. of the principals answered that none of their pupils were compelled to leave on account of ill health; 11 per cent. gave 1 in 500 as the proportion; 9 per cent., 1 in 250, 17 per cent., 1 in 200; 28 per cent., 1 in 100, 9 per cent., 1 in 50; 4 per cent., 1 in 33. This is an average loss due to general ill health of one in each two hundred pupils.

What is the size of your playground? Nineteen per cent had no school playground; 10 per cent. had less than a square

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City June, 1909.

yard per pupil; 7 per cent. had between 10 and 15 square feet per pupil; 15 per cent. had between 15 and 25 square feet per pupil; 6 per cent. had between 25 and 50 square feet per pupil; 18 per cent. had between 50 and 100 square feet per pupil; 25 per cent. had over 100 square feet per pupil.

Have you a good system of ventilation—any method insuring fresh air constantly? Twenty-two per cent. answered in the negative; 78 per cent. in the affirmative.

What method of ventilation is used? The answers varied greatly as to the system in use and the major portion of systems mentioned can not be considered adequate. The ventilation of the schoolroom is of such importance that it would seem advisable that this body take some cognizance of the methods of schoolrom ventilation which meet its approval.

Have you a sanitary drinking fountain? This was answered in the affirmative by 27 per cent.; in the negative by 73 per cent.

Do you use individual cups? This was answered in the affirmative by two principals.

Are the school toilets in good condition? This was answered "yes" in 81 per cent. and "no" in 19 per cent., but these answers do not coincide with the result of personal investigation, as in the schools visited the toilet rooms were usually found to be dark and ill ventilated.

The Care of the Rooms.—The rooms were swept daily in 80 per cent. of the schools, tri-weekly in 19 per cent. and bi-weekly in 1 per cent. The rooms were scrubbed once in two weeks in 24 per cent. of the schools, once a month in 21 per cent., once in two months in 3 per cent., three times a year in 37 per cent., twice a year in 11 per cent. and annually in 4 per cent. The school desks were washed twice a month in 7 per cent., monthly in 15 per cent., once in two months in 5 per cent., three times a year in 29 per cent., twice a year in 16 per cent. and annually in 28 per cent. The walls were washed or calcimined each year in 7 per cent., every two years in 19 per cent., every three years in 10 per cent., every four years in 12 per cent., every five years in 14 per cent., every six years in 14 per cent., every seven years in 2 per cent., every eight years in 8 per cent., every ten years in 8 per cent., every fifteen years in 1 per cent., every twenty years in 1 per cent. and never in 4 per cent. In dusting a feather duster was used in 67 per cent. and a damp cloth in 33 per cent.

Text-Books.—In 53 per cent. of the schools free text-books were used entirely. The average life of a book was given as two years in 12 per cent. of the schools, three years in 21 per cent., four years in 29 per cent., five years in 28 per cent., six years in 7 per cent., seven years in 1 per cent., eight years in 2 per cent. In no school was there any means provided for sterilizing the books; and, regardless of the condition of the previous user, the books were passed on to the next pupil without a pretext of asepsis.

TEACHERS' SERIES

Below are summarized the answers to the teachers' questions; for comparison there have been selected the answers from the first and seventh grade teachers, as time will not allow of a more detailed report.

How many pupils in your room?

Number of Pupils in Room.	Per cent. of Answers. 1st Grade.	7th Grade.
15 to 20		2
21 to 25	1	
26 to 30	2	9
31 to 35	8	23
36 to 40	29	25
41 to 45	24	13
46 to 50	18	12
51 to 55	5	2
56 to 60	7	2
61 to 70	6	2
71 to 80	..	2
81 to 90	..	2
91 to 100	..	2

What is the size of your schoolroom? The dimensions of the schoolroom have been reduced to number of square feet per pupil, as in the calculation of air space any height over thirteen feet was not believed to influence the air content of the room.

Number of Sq. Ft. Per Pupil.	Per Cent. of Answers. 1st Grade.	7th Grade.
Less than 10	4	
11 to 15	23	13
16 to 20	39	25
21 to 25	26	40
Over 25	3	22

Have you good playgrounds? Thirty-four per cent. answered "no" and 66 per cent. answered "yes."

How much time does the child have on the playground each day?

Time on Playground.	Per Cent. of Answers. 1st Grade.	7th Grade.
No outdoor recess	8	12
10 minutes	3	6
15 minutes	13	35
25 minutes	10	6
30 minutes	66	41

These are the periods the schedule calls for, but as in no school is there any covered area provided, in stormy and inclement weather the outdoor recess can not be had.

What is the longest period the child is in the schoolroom without an outdoor recess?

Longest School Period.	Per Cent. of Answers. 1st Grade.	7th Grade.
60 to 90 minutes	50	34
90 to 120 minutes	38	48
120 to 150 minutes	5	6
150 to 210 minutes	7	12

How many of your pupils must do home work to keep up with their classes? In the first grade 7 per cent. of the teachers required some home work, while in the seventh grade home work was required by 82 per cent. of the teachers.

How many of your pupils show a marked lowering of vitality or loss of vigor or a noticeable increase of nervous irritability during the school year? Forty per cent. of the teachers failed to recognize these conditions in any of the pupils, while 60 per cent. recognized it in one or more of their pupils. In the minds of the teachers the contributing causes of this condition of stress were:

Causes of Strain.	Per Cent. of Answers. 1st Grade.	7th Grade.
Too much school work required	78	22
Too great anxiety over grades or examinations	8	32
Too many outside cares, as the care of younger children or employment for economic purposes	14	24
Outside social distractions	12	30
Poorly cooked or innutritious or insufficient food	42	12
Habits contracted outside the school, as cigaret-smoking, exciting companionship or bad personal habits	12	44

On the principals' series of questions the question, "What in your opinion are the chief causes of stress and strain in the school child?" was answered by the majority to the effect that there appeared no stress or strain in the children under their observation. Of the others answering the question each hundred principals gave the following:

Too much school work required	30
Too long school hours	9
Poor preparation in the earlier grades	12
Insanitary school conditions	9
Too many pupils in a room	8
Too much importance attached to examinations	5
Yearly promotions and the lockstep method	6
Poor teachers	4
Improper school seats	2
Outside work, as selling papers, ushering in theaters and care of young children	14
Outside work, as music and dancing lessons	4
Overambitious parents	11
Poor home environment	27
Children improperly clad	9
Children improperly fed	23
Insufficient sleep	15
Social distractions and cheap theaters	23
Mental insufficiency	26
Lack of home discipline	9
Irresponsibility	6
Irregular attendance	6
Physical defects	9
Bad personal habits	15
Too much stress attached to the special studies	6

The schedules are apparently arranged with but two ideas in mind—to have the harder studies early in the session and to fit in with recesses.

Sample schedules taken at random from various school systems were found to have the same lesson periods for all the grades, no attention being paid to the physiologic fact that a child six to ten years of age can not apply the attention to a specific subject for more than fifteen minutes without undue strain. In many schools the first lesson period, which supposedly is of the hardest study, is forty minutes in length in the primary grade.

The curriculum is manifestly overcrowded. This is due to three causes: first, the domination by the colleges; second, the fact that all that has been in the curriculum at any period must remain; third, that every pupil must take all the work, regardless of personal need.

This overcrowding of the curriculum is the source of much of the criticism which is being heaped on all public school systems, and is a menace to the child in two diverse ways: first, the honest ambitious child must do more than is within the limits of his ability to do without physiologic impairment, and, second—and what is of far greater evil in its effect—is the fact that educators recognize this factor and the child himself soon learns that to do all his work well is unnecessary for promotion, and here is inoculated into him those habits of shiftlessness and irresponsibility that are the crying evil of the modern school. Through all the literature and remarks of educators one recognizes this constant wail of the inability of the school to develop the will, but all effort is placed on the intellectual capacity. The school does not educate (draw out), but rather its apparent endeavor is to pour into the child a certain definite number of facts.

There are now at work several agencies looking to the simplification of the curriculum. A committee appointed by the National Educational Association is doing a valuable work.

To sum up: It is self-evident that inefficiency exists in the working out of the educational method for the child in all departments.

To suggest improvements in the several very urgently needed reforms would take more time than is allotted for this paper. What would be of far-reaching good is the establishment of an educational health board connected with each school system, this board to be composed of physicians, with proper authority to act in safeguarding the health of the school child, and to be the final arbiter in regard to hygiene and sanitation, and to indicate the mental and physical ability of the pupil.

THE SCHOOL CHILD'S BREAKFAST*

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To physicians deeply interested in the work of preventive, as well as curative medicine, the school child's breakfast is becoming an important factor for earnest consideration. The subject, however, is not a new one. For many years harrowing stories have reached us from over the ocean of the distressing poverty of English and French cities. Reports have come to us of thousands of children who are sent to school weak from hunger. The expensive educational system provided for the children weakened by privation and hunger in their poor homes evidently has failed to impress or benefit them to any degree. Our government, as well as the governments of several European countries, has debated and framed, year after year, various laws for the correction of the school child's condition; yet very little good in this special direction has crystallized out of the many voluminous "acts to amend an act" before the various legislative bodies. It is much more convenient for us to read, and even to reread, these many reports of the distress of the foreign child and eventually come to believe them than to investigate patiently the truth for ourselves.

The best framed legislative measures reach us from Great Britain. The British people have indulged, frequently and thoroughly, in debate on the underfed school child. It is a matter most vital to them. In April, 1905, Sir John Gorst, possessing an advanced mind, full of theories, yet lacking practical application, instituted a most appropriate comparison of the government of the people described by the Apostle as "ever learning and never able to come to the knowledge of the truth." As he states, they are always appointing royal commissions and departmental committees on social questions, but most frequently fail to carry out their many recommendations. He is found stating his case in this language: "It is true our committees found themselves unable to say whether the school child was better nourished or developed now than forty years ago, for the course of study imposed now is much more exacting than formerly. But it is a fact that the child is much better physically now, and more able to endure indoor work, so the committee felt, inasmuch as the material was better, it was desirable to demand more of the child." Another British report quoted by Sir John Gorst insists that all school children should be inspected more thoroughly, physically and mentally, and examined as to all the senses, and finally, measured and weighed semi-annually. In this way the country might learn the true facts of the child's condition—if improving or deteriorating.

While reading of our British cousins and feeling a national pride that our own country does not allow a school child thus to suffer and deteriorate, our natural complacency was given a rather rude shock by the publication of an article by that sociologic writer, Mr. Robert Hunter, implying that our country was no better than Great Britain or France, and estimating that in New York City alone 70,000 children went to school hungry. The exact number was, moreover, distressing, inasmuch as a definite number carried conviction in regard to the actual facts tabulated in so large a number. For 70,000 children to go to school hungry seemed appalling, and this occurred just during the most prosperous period of our country. The exact facts seemed more like an importation of statistics from the literature of a foreign revolutionary agitator. It did not seem to belong to our country or our investigations. The true statement made by Mr. Hunter was that 70,000 children were found in New York schools underfed, and the latter word would have expressed the real meaning of the original statement more clearly than the word hungry. Many thousands of little children go breakfastless to school at times; but the real problem is much more extensive than that, and embraces that much more numerous class of children who are chronically underfed, either because their food is insufficient in quantity, or, what is the same thing in the end, poor in quality and lacking in nutriment. Furthermore we read from John Spargo's "Bitter Cry of the Children" that from cases personally examined by himself, or by teachers acting under suggestions given by

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

him, he found that of 12,800 children 2,950, or more than 23 per cent., either had, on the morning examined, no breakfast or a miserably inadequate breakfast of bread, crullers or crackers, with or without coffee or tea. He has also summed up the result of other investigations made in New York City, Philadelphia, Buffalo and Chicago, which show that of 40,746 children 14,121, or 34.65 per cent., had gone to school breakfastless, or with nothing more than bread with tea or coffee—certainly a very poor preparation for the day's work.

The animated discussion on the question of underfed school children which has been going on for the past four or five years, both at home and abroad, has found its way into the newspapers, chiefly through the reports of sanitary inspectors. These published statements are based on insufficient grounds. The final analysis will prove that poverty, or the want of food, is not the real cause. The child does not usually want the food in the morning. It is absurd for the excited social reformer to demand, on such slight grounds, the supplying of free meals. It is true, indeed, in every large city there are many children who go hungry to school and go because there is an actual lack of food for them. This condition is, fortunately, not common in our own country. This class of school children should be cared for by the proper charitable agencies and never by school authorities.

Viewing the question from a medical standpoint, poverty is not the cause, except in a small minority of the cases, of those school children who go hungry. All physicians, especially those dealing largely with children, note the capricious morning appetites of children who are physically below normal from any one of many causes—such as ill health, poor homes, careless personal hygiene, etc.—and this is most likely to occur with those living in city slums and crowded quarters. Any physician doing dispensary work will recognize the truth of this assertion.

For several years I have been deeply interested in the child's breakfast, and I have made careful investigation along this line to learn the actual truth. A large proportion of the children, if asked why they did not have breakfast, would quickly reply that they did not want it; or, if in the younger children, the answer would be that their mothers could not make them take any. The true answer must be sought farther back than the mere lack of food, for food is frequently abundant. The true cause is generally the personal or domiciliary hygiene of the poorer classes extending throughout several generations. Careless mother, unclean bedrooms, close and badly ventilated, late retiring hours, with heavy, unsuitable dinners, a strong disinclination for the morning bath—all tend to cause neglect of the morning meal; then the child is hurried off to school with little attention to his personal comfort in many ways, besides omitting the breakfast.

It is not among the poorer classes alone that we find the capricious morning appetite. The fault is found just as frequently among the children of the better classes. This condition prevails in a more pronounced form—the personal environment is forced and unnatural. The practice of allowing young children tea and coffee, various stimulants, the rich, late, evening meals, associated with the excitement of music and visitors until the early sleeping hours have been broken, are all active factors in producing unstable appetites. These conditions and many more could be mentioned which must be taken into account when seeking a remedy for the growing evil. Little good can be accomplished in spending public money for free meals for children who do not want to eat and can not eat in the early morning, handicapped as they are with these many difficulties.

With the object of corroborating or disproving the correctness of Robert Hunter's and John Spargo's statements of the school child's breakfast, I enlisted the services during the winter of about 100 teachers in the elementary schools and emphasized the importance of their method of questioning the young child. I insisted that the following three questions be asked: 1. Do you eat a breakfast? 2. What do you eat? 3. How long does it take you to eat? The importance of truthfulness in our answers would rest in the manner of the teacher's approach to the child. She must ask each child alone and in strict confidence; the child must not know he was about to be questioned, otherwise the answer would be prompted by his pride or his mother's suggestion—that is one reason why the answers collected by John Spargo are misleading.

The result of my winter's work is very briefly summarized as follows:

Of 2,169 children interrogated:

58 per cent. drank coffee
15 per cent. drank milk
11 per cent. drank cocoa
11 per cent. drank tea
68 per cent. ate bread
4 per cent. ate rolls
40 per cent. ate eggs
35 per cent. ate a cereal
5 per cent. ate potatoes
18 per cent. ate cakes
9 per cent. ate meat
9 per cent. ate fruit
6 per cent. ate various other foods

Only six claimed to eat no breakfast; 737 gave the time consumed in eating as follows:

2, 50 minutes
5, 45 minutes
3, 35 minutes
74, 30 minutes
27, 25 minutes
128, 20 minutes
221, 15 minutes
1, 13 minutes
2, 12 minutes
135, 10 minutes
1, 8 minutes
31, 5 minutes
3, 5 minutes
2, 2 minutes
2, 1 minute

In conclusion, while we can not draw a definite result from the analysis of so small a number of school children (2,169) as to the quantity and quality of food taken for their breakfasts, we may infer that the school child has a chance—a poor one, indeed—for a breakfast; and the reason he has so poor a one is not that he has no food, but unfortunate surroundings to prepare him for his day's work.

Our duty as physicians is to regard our professional relation not ended with the school child until definite instructions be given to the family in correcting the poor home surroundings of the child as to sleeping rooms, personal habits, as well as proper food at a given time.

It is quite evident that Mr. John Spargo's estimate of hungry school children is erroneous and misleading. This is due to the manner of his gathering his information, obtaining it collectively when every element of personal and family pride was placed on view.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. HOLLOPETER AND VAN DERSLICE

DR. L. T. ROYSTER, Norfolk: I am acting head of the school board in a city of 70,000 inhabitants, about 60 per cent. of the school population being in the schools. We have about 15,000 negroes in our schools, but these schools, of course, are separate.

The school authorities are the first ones to be educated in this matter. It is absolutely essential that on every educational board there be a physician; I never realized the need of that until I got on the school board myself and found that what little I could do was absolutely needed by those gentlemen, all good men but not knowing what was needed from a physical standpoint. First of all, the physical and moral development should be ahead of the intellectual. Our public school system should fit the child for the battle of life, and that is not done without a physical and moral foundation. Of first importance is sanitation. When children are educated in the proper care of their physical being, not only will they be benefited, but the next generation will receive the benefit of this education. These children will in the next generation be the legislators as well as the educators. If the Lord's prayer is taught a child at its mother's knee, that child will never forget it. It may come to feel that it does not need it, but if the occasion arises it will remember its early teaching. This is equally true of other teaching. If a child is taught that his welfare depends on physical and moral hygiene, the foundations are laid for the good of the race.

Questions come up as to whether a midday lunch is preferable or whether the child should continue his work and go home for a 3 o'clock dinner. All these questions come up from time to time, and it seems this body should go on record and let it be known that the American Medical Association stands for certain principles that are essentials in public school education. That must have some weight eventually. We must keep these facts before the public every day and every month and every year. Another thing, we are the men who influence the people in their homes. The family physician is the one who tells the mother that the child must do this, that, or the other. Mothers will do what we tell them, even if they come into conflict with the public school system. We are the missionaries. Now it seems to be a belief that anything ever put into the curriculum should never be taken out. I am a believer in two fundamental things in the teaching of children, *i. e.*, moral training and physical education. No man is educated until his moral nature is trained and from physical training you get a power of coordination and also of relaxation. Make the public feel that we are the arbiters of the situation. It is our duty to humanity to keep constantly knocking at the public door.

Dr. Charles Douglas, Detroit: It seems to me that this is perhaps the most important subject we could undertake in order to educate the public. Professionally we are coming in contact with the results of intense ignorance among the so-called better educated women in this country. Our work is largely to repair the damages that are the result of their ignorance. We are continually called on to correct evils among the little ones that are the result of the ignorance of the mothers who have followed the advice of some ignorant mother or grandmother. I contend that we must do all that has been said and we must go further. In every woman's college curriculum there ought to be a course educating our young women to know what is right and what is wrong in hygiene and dietetics, so that in after years when feeding their children they will not be dependent on some ignorant old woman for directions. We know that in the first week of a child's life damage is often done that will send the child to its grave. We should force the public to recognize that the schools are not doing their whole duty. Is it necessary to teach so much of what we all forget? Is it not better to teach young women something they will need? We should teach them what foods agree, what are the elements in food for proper nutrition and how to use the foods. If they have enough of this knowledge they won't be subjects for education by people more ignorant than themselves. Only then will we have a higher status of education than we have now.

Dr. George F. Little, Brooklyn: I agree that we ought to make public such action as we may take. We won't go far by merely talking this over among ourselves. This committee will report from year to year and I think they should make recommendations to be acted on by this body. I would suggest that the committee get together this afternoon and make such definite recommendations as the report may call for; that the section act on the resolutions submitted and that they be given wide publicity.

Dr. C. G. Kerley, New York: When I was chairman of this Section I read a paper on this subject, and a year ago I read a similar paper before the American Pediatric Society. I think we are going a little too fast. It is all right to take the matter before the public, but the first one we have to educate is the physician. The physician must realize that he has something to do besides studying pathology and therapeutics and practicing medicine. We know something that the public ought to know. We recognize this fact we come here and discuss and then we go away and the public knows just about as much through our knowledge as it did before. What physicians must recognize first is that they are, in a sense, teachers. Where does the public get its information on the subject of health and disease? From "patent-medicine" and proprietary-medicine manufacturers. How is the mother to know how to feed her child properly or how is the father to know how to eat in order to nourish his body to enable him to work, if he has never been taught? Ninety per cent. of the population eat simply to satisfy the appetite. What we must do is to teach the people how to live. Physicians must appreciate their duty to the community and then they will be able to act to a tremendous advantage for good. Instruction in vital living principles should be taught in the schools. Every large town should have a board of hygiene associated with the board of education, but to have that brought about the people must know that we have something that they need that should be brought before them.

Dr. Van Derslice tells us of the ignorance and of the neglect of children, showing that they do not have the care that the farmer gives his horses and his sheep because the child has no value in dollars and cents. The neglect of children, particularly in our larger cities, is a disgrace to our country.

Dr. Helen C. Putnam, Providence: The first thing to do is to educate physicians. The teaching of hygiene in recent years has grown to what may be called a specialty. Several speakers in another section discussed hygiene taught by textbooks; but our leading educators and some physicians are far ahead of that idea. Object lessons and training in habits is the most efficient method. A child can learn more hygiene in two days from a good tuberculosis school exhibit than in two years by memorizing a text-book on bad air and unclean room. The making of housewives has been mentioned. Housekeeping to-day requires scientific knowledge. Domestic science when well taught is by far the best hygiene taught in the schools, and children take it home to their mothers. Boston has exceptionally good instruction in this department, and exceptionally good health reports. School nurses are among our effective instructors. We need higher standards for medical inspection—physicians trained for it. I do not know whether one of the speakers meant to endorse the individual drinking cup in school. Theoretically he might. Experience, however, shows it to be no improvement on the common cup. Children keep it in a dirty desk, or hanging in dusty air, or wrapped in a grimy handkerchief, and lend it to their cupless friends. What morals and manners if they did not! Its details are additional burdens to teachers, parents and child. We should advocate instead the bubble fountain. School fatigue is being specially studied in laboratories. This school cachexia is largely due to lack of outdoor air. Physicians should advocate education through industrial training, outdoor games and school gardens, to introduce the open-air life. Nature study (school gardens, etc.) is the normal method of teaching the origin of new life, which it is our duty to promote. The national organization of biologists is beginning definitely the consideration of its mission in this respect, and we should cooperate in all possible ways.

Dr. H. I. Bowditch, Boston: As a younger member of the profession, I think we have neglected one class of students who should be thought of. When I was in college nothing was taught of our responsibility to the public. In the early years it used to be taught, but not now. We used to get an occasional lecture on ethics and the relation of the physician

to the public. If the students realized their relation to the public, and what ought to be taught the public, physicians would have a better knowledge of what they have to come up against.

DR. E. C. HACKETT, Chicago: When Dr. Putnam spoke of the work of the biological society, it seemed to me a crying shame that a brother or sister profession should take up the work that physicians ought to be doing. I want to urge that the medical men and medical women in small towns are overmodest. This teaching of others will not be done unless physicians do it. I know the difficulty there is in small towns in getting accurate information on these subjects. One woman physician told me that she had had the temerity to speak in her small town on the subject of reproduction and the matter of abortion, and for speaking of such "unladylike things" she had been tabooed. We will have to come forward and show the public that the American Medical Association is behind this movement if we expect to accomplish anything.

DR. W. C. HOLLOPETER, Philadelphia: My sole object in writing this paper was the attempt to go farther back than the mere want of food, and consider the general environments of the child. Much harm has been done by the sentimental writings of the sociologist in the matter of the school child's food, and especially the breakfasts, and this investigation was made to fix the facts more definitely before the profession. If I have satisfied any members of this Section that we need greater hygienic home care of the child rather than increase of food, the object of the paper will be accomplished.

DR. J. W. VAN DERSLICE, Oak Park, Ill.: I believe that the medical profession needs educating, but I don't know any place where physicians can go to get any sane ideas on the subject. I have worked on this committee for two years and there are very few points on which I am definitely fixed. I think this Section should take a definite stand on subjects we deliberately take up; any subject we take up must be sanely handled. I do not want anything to go out from this Section as a resolution that can be turned down as impractical. There are too many fads and hobbies; what the public wants is facts and practical ideas taken from authoritative sources.

River Pollution and the Hudson-Fulton Celebration.—A discordant note in the Hudson-Fulton glorification, says the New York *Christian Advocate*, comes from a man whose life-span almost bridges the hundred years since the Clermont made her first trip—the Hon. John Bigelow, who was born on the banks of the Hudson ninety-two years ago and has always lived beside it except when residing in Paris as consul, or minister. Mr. Bigelow opens his heart to the public in a letter to the Hudson-Fulton Commission, in which he makes the shades of the discoverer and steamboat pioneer say:

> The river you are making such an ado about discovering and navigating is not the river either of us saw. The river we knew and which bears one of our names consisted of as pure and delicious water as ever descended from heaven. You have permitted it to be converted into a great sewer into which all the cesspools, barnyards, kitchens, mills and factories between New York and Troy discharge all their polluting exuviæ and rubbish, instead of sending them back on the lands whence it came and which it should enrich. In doing this you have deprived all the river counties of one of their most valuable crops. That river in our time used to swarm with shad, herring, sturgeon, striped bass, bullheads, sunfish and pan fish of many other varieties. These fish used in our times and for many years after continued to furnish at least one-third of the nourishment of all the inhabitants for ten miles back on both sides of the river from New York to Albany. If you wish to honor us for what we have done to render this magnificent waterway useful, restore it to the condition in which we left it and when it was ready to appease the hunger and thirst of millions of people. Instead of that you have not given a thought or appropriated a penny for the discharge of the first duty which our names should have prompted you to discharge.

It is perhaps too late to save the majestic Hudson from pollution, but there are still in the more recently settled parts of our country streams which nothing but immediate and vigorous action can save from similar or worse pollution. That lavish waste of natural resources which has leveled the forests of America is defiling lakes and rivers with offal which ought to be returned to the soil.

FINAL WORD ON THE STEM PESSARY FOR AMENORRHEA, DYSMENORRHEA, STERILITY, ETC. *

J. H. CARSTENS, M.D.
DETROIT

The many inquiries I receive from all over the country about the use of the stem pessary, with requests for reprints of previous articles on the subject,[1] have prompted me to write another article on this question. It shows that the conditions mentioned in the title are difficult to treat. Knowing that the stem pessary will relieve the patients in nearly all cases, and in order to give this method of treatment thorough publicity, I again write on the above-named subject.

AMENORRHEA

This we generally divided into two classes, the one existing in young women in whom menstruation never made its appearance, and the other in patients in whom it has been established for a shorter or greater length of time and has suddenly or gradually disappeared.

Although there are great individual variations, large statistics in different countries show that the age of the first appearance of menstruation is about the same in the white race, viz., between the fourteenth and fifteenth year. The common people understand this perfectly, and if a young girl does not menstruate at about fifteen the mother begins to worry and perhaps treats her or consults a physician. We now well know that in some cases there is no need for treatment of any kind. The patient is backward in development, is perhaps anemic, chlorotic, suffers from indigestion, or has other conditions which generally retard the growth of the pelvic organs. With our rapid development and high education, in many young girls the vital energy is used up with study, and the menstrual function is slow in making its appearance. On the establishment of ordinary rules of hygiene and appropriate treatment such patients become stronger in the course of a year or two and the menstrual function makes its appearance without trouble.

But there are other cases in which no cause for the tardy appearance can be found, but the patients have symptoms of pain and distress recurring monthly. In such cases all the long list of emmenagogues which have been handed down to us for ages are of no avail. I have tried them faithfully and never saw any benefit from them whatever. I am by no means a therapeutic nihilist. Such patients need a thorough examination of the genital organs. There is no use wasting time with all kinds of treatment. These patients must be examined under an anesthetic. If there is an imperforate hymen, atresia of the vagina, or absence or defect of any of the organs of generation, proper surgical treatment must be instituted. These abnormal conditions do not concern us to-day.

Frequently we shall find that the uterus is small, a great deal smaller than it should be; sometimes it is bent. We have a so-called infantile uterus. Sometimes the whole uterus is small, only two inches in length. At other times it is of normal length, but is very thin. In some cases the body of the uterus seems poorly devel-

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Carstens, J. H.: The Stem Pessary for Amenorrhea and Dysmenorrhea, THE JOURNAL A. M. A., Dec. 29, 1906, xlvii, 2133; Infantile Uterus, etc., Am. Jour. Obst., 1903, No. 5; The Stem Pessary for Dysmenorrhea, Ann. Gynec., December, 1904.

oped and in other cases it is the cervix. It may be the normal length, but only as thick as a lead-pencil.

This poorly developed condition is sometimes due to poor hygiene, improper method of living, too much mental work and too little physical exercise, resulting in a poor development of the whole body. In other cases the patient is physically well developed, but only the pelvic organs seem to be retarded. Now with this kind of cases I formerly had a great deal of trouble. I used applications, tampons, douches, and applied electricity until I got tired of it. I then began to use a small steel dilator like the Notts. By gradual dilatation two or three times a week I would develop some of these uteri to about normal size. It was painful, however, and would take months—yes, even years. Twenty-six years ago in an article I called attention to this method of treatment for amenorrhea and dysmenorrhea.

A good many years ago I read an article on the value of a string of beads introduced into the uterus for the purpose of bringing on a more profuse flow in scanty menstruation. The introduction of a foreign substance into the uterus struck me as a reasonable procedure. I then thought of the stem pessary as a possible means of relieving this condition and began to use it. I found so much benefit that I increased the indications for its use ever since.

PREMATURE ATROPHY

Then there is another class of cases in which menstruation has been regular and normal for years, but when the women are 30 or 35 years old it becomes scanty and skips and is painful. This condition you will find in women who are unmarried and take little physical exercises, but are hard workers mentally, teachers and others who hold positions of responsibility requiring a great deal of mental work. On account of non-use the uterus undergoes a premature atrophy, and on examination the uterus will be found small, like the infantile uterus above mentioned. In such cases wonderful improvement on the insertion of a stem pessary, allowing it to remain for a year or two. To this class may be added that class of superinvolution of the uterus following confinement or miscarriage. Generally the same symptoms are produced as are found in the small uterus at puberty.

AMENORRHEA IN FLESHY STERILE WOMEN

Then there is a third class of cases. Women who live high, have good digestion and are hearty eaters become fleshy; the menstruation becomes scant and sometimes disappears entirely, and the women become sterile and develop all kind of nervous symptoms. I never saw any medicine give benefit in such cases, but by the insertion of a stem pessary and by control of the method of living wonderful benefits to the symptoms and reduction of fat can be brought about.

DYSMENORRHEA

This is one of the most intractable conditions to manage. In the past many normal ovaries have been removed as a last resort in such conditions. Some women suffer pain so that they are laid up every month for a day or two or even more. If they have positions they lose them, as nobody wants the young woman who is incapacited for work every little while. Many drug habits are started on account of painful menstruation. All the remedies, local or internal, that have been used and recommended give but little relief, except some kind of narcotic; hence we can readily see how necessary it is to find some means to permanently relieve this condition.

Authors have divided dysmenorrhea into different varieties, such as obstructive, inflammatory or congestive, membranous, and ovarian. We must, first of all, see that the pelvic organs are in normal condition, and if there is partial atresia it must be remedied by forcible dilatation, etc. But this recurs in the course of a couple of months and the operation has to be repeated. To prevent the recontraction I always insert the stem pessary after forcible dilatation. In cases of membranous dysmenorrhea I thoroughly curette the uterus and swab it out with pure phenol, insert the stem, and cure the patient. The so-called congestion and inflammatory conditions usually mean diseases of the tubes or pelvic peritonitis, and so on, and these require special surgical operations. The stem pessary is not only not indicated, but is liable to light up a dormant case and cause serious consequences.

The stem pessary is indicated in those obscure cases in which we can not lay our fingers on any particular abnormal condition—the kind that used to be called neuralgic; no general defect is found, no inflammatory condition, no displacement, or anything else, simply pain during menstruation. And let me add to this that other peculiar pain occurring just between the menstrual periods which the Germans call *Mittelschmerz*, the pathology of which we do not understand. It is marvelous what beneficial results are obtained in all such cases from the stem pessary.

DISPLACEMENTS

Originally the stem pessaries were devised to keep the uterus in about the normal position. Some stem pessaries were a combination of a retroversion or anteflexion and a stem pessary, all in one piece and difficult to introduce. Others were made of zinc and copper, supposed to have an electric action. But all kinds of stem pessaries were soon discarded because they caused trouble. In the course of my experience I found that in some cases in which there was a reflection or version besides the other conditions requiring the use of the stem pessary, the latter often helped the displacement if worn long enough. As the general health of the patient improves, the ligaments regain their original tone. But the pessary must be worn at least a year or more.

STERILITY

Many of the conditions requiring the use of the stem pessary are also the cause of sterility. I had that impressed on me by some of my earlier cases. A woman, married five or more years, who had suffered from some of the above-mentioned conditions, became pregnant after removal of the stem, which she had worn for three months. This gave me another indication for the use of the stem; and, in fact, some of my patients were kind enough to call the attention of sterile patients to the fact that they had been relieved by the stem pessary and sent them to me, so that in the course of time I have had several patients who afterward became pregnant, although I never promise to relieve that condition. There is nothing lost in trying the pessary, even if it fails. Sterility is sometimes caused by poorly developed mucous membrane of the uterus and the presence of a foreign substance in the uterus, I think, will strengthen and develop the lining membrane.

CONTRAINDICATIONS

Velpeau, in 1840, was the first, I think, to urge the use of the stem pessary. Others took it up, especially Simpson. Different kinds and shapes were devised. But in those days the pessary was used for displacements

principally, and, as many of the displacements were the result or coincidence with pelvic troubles, pus tubes, etc., it can now be readily seen how serious results followed their use. Dormant pelvic inflammations were relit; in fact, septic micro-organisms were sometimes introduced in the uterus and persons otherwise previously healthy soon developed pelvic trouble, so that in the course of time the profession tabooed the use of the stem pessary. It is well known that, though repeated efforts were made to re-establish their use, they soon fell into disuse again, and very justly, as they were not properly used and counter-indications not well established. Dysmenorrhea was frequently caused by pelvic inflammations of various kinds and a careless physician might use a stem pessary in such a case with disastrous results. These cases require surgical interference of entirely another kind. Versions and flexions with adhesions require different treatment. A movable displacement requires an Alexander operation or something of that kind. The stem pessary is indicated only when there is no septic or inflammatory condition in the pelvis.

Such conditions must be rigidly excluded; hence it is readily seen that the principal indication for the use of the stem is in young or unmarried women. I have had a few cases in which the stem would not be tolerated and had to be removed. In some the pessaries came half out, as the result of falls from a swing or a bicycle, and had to be removed and reinserted. Hence I want to warn the profession not to use the stem indiscriminately and again bring it into bad repute. Judiciously used, it will be a valuable aid in the treatment of these otherwise intractable cases.

TECHNIC

The introduction of the stem requires dilatation of the uterus. As this is very painful, it is necessary to give an anesthetic, although it may take only five minutes. Then the absolutely cleaning of the vagina is necessary.

I use the Chambers hard rubber stem, although others may be as good. That everything be aseptic I boil the stem with the instruments, but, as the two arms of the stem come together while boiling, I immediately, when taking them out of the hot water, separate them and dip them in cold water so that they will stay open. Generally I have the patient on the back; with vulsellum forceps I catch a lip of the uterus, pulling it down somewhat and straighten it out as much as possible. I now insert a sound to get the exact length of the uterine cavity. Then I select a pessary a little shorter (¼ or ⅓ inch) and have it ready for insertion by fixing it into the introducer. Now I dilate the uterus. As this is often small it is necessary to start with a fine-pointed dilator. I use the Notts dilator. This generally is not sufficient and I then use the Goodell-Erlanger dilator or any other kind, thoroughly opening the uterus. If there should be any endometritis or discharge from the cervix I thoroughly curette the cervix only and swab it out with pure phenol, wiping it dry. I can then insert the stem. The button at the end must be on the cervix. The stem is kept in place by a finger on the button; then the introducer is pulled out and the thing is done. If indicated, a Thomas-Hodge pessary is inserted. The physician must see that the button is in the center of the retroversion pessary. There may be a little blood lost from the dilatation; therefore, I give phenolized douches twice a day for a day or two while the patient remains in bed. Some can get up the next day, but, as a rule, I keep them in bed for forty-eight hours. Then they can get up and go about their usual vocations. They can do anything and everything, as they always did, and never know that they are wearing stem pessaries. Once in a great while in women who are very constipated the pessaries may be forced out by straining. This sometimes also occurs in cases of relaxed vaginas. In the latter the soft rubber inflated pessary will often help to retain the stem in place.

All I ask of the members of this Section is to give the stem a fair trial in those properly selected cases in which ordinary treatment has failed and let us hear the results.

620 Woodward Avenue.

ABSTRACT OF DISCUSSION

DR. HOWARD A. KELLY, Baltimore: I think it would be interesting if the members would give their experience. I supposed that the old-fashioned method of using a pessary had been discarded a generation ago. I practically never use internal appliances for any cause whatever, that is, extending over any period of time. I have never used a stem pessary. I don't see just what good it can do. I have seen a great deal of harm result from the use of pessaries, and therefore, I have not used them.

DR. H. P. JACK, Canisteo, N. Y.: Often the uterus will either raise children or raise something else. We often see in women engaged in mental work the most severe suffering from dysmenorrhea and scanty menstruation. I have in mind a woman who, in spite of the most careful treatment, had become a nervous wreck and who had not menstruated for eight months. Following the method of Dr. Carstens, I used a stem pessary and since that time she has menstruated, not profusely, but regularly. She has developed from a nervous wreck to a healthy, robust, well-feeling young woman. I could report several other cases in which the results have been equally striking, in which women have been transformed, so to speak, from invalids to healthy capable persons.

DR. A. E. BENJAMIN, Minneapolis: I have been using the Outerbridge speculum instead of the stem pessary, although I have used Dr. Carstens' stem pessary in several cases and must report good results in some of them. We must be sure that a case of amenorrhea is due to a lack of development of the uterus or of the ovaries. Dr. Carstens has thrown out a few suggestions in regard to the use of the pessary, but we must be absolutely sure that there is not an undeveloped condition of the adnexa, particularly of the ovary. I have seen a number of cases in which a fibrocystic degeneration was taking place; and it must be remembered that amenorrhea will occur on that account. In some of these cases laparotomy was done, the ovaries were resected, cysts removed and menstruation and pregnancy have followed. In cases of dysmenorrhea I have used the Outerbridge speculum introduced just previous to the menstrual flow. Its spring-like action keeps the cervix open. It is one of the best instruments we can use at that time. Also in dysmenorrhea we must be sure that the difficulty is not due to some condition outside of the uterus, that is, in the pelvis. For sterility the same instrument can be used. A few cases I can report in which pregnancy occurred by the use of the Outerbridge speculum, but in most cases I think that Dr. Carstens' stem pessary can be used with greater satisfaction. I believe with Dr. Kelly that nothing should be introduced into the uterus to be left there for any length of time. But when one can restore the function of the uterus and produce a more normal mental state by the use of some of these things, I think their employment is justified.

DR. J. H. CARSTENS, Detroit: How can any one judge of a thing he has never used. Thirty or forty years ago it was a serious matter to use these pessaries; they were inserted and severe inflammation was the result. To-day we see great benefit resulting from their use. I have women traveling all over the world wearing these stem pessaries, and able to do all kinds of work.

OPACITIES OF THE CORNEA

THEIR FREQUENCY IN CHILDHOOD FROM PREVENTABLE CAUSES AND THEIR EFFECT ON VISION *

COLMAN W. CUTLER, M.D.
NEW YORK.

Ophthalmology has been regarded as a field not distinct from general medicine, but comprising problems such as refraction and special surgery, which require so thorough a training as to deter the practitioner of medicine. It is obvious that this attitude is deplorable, as it tends to make the specialist in reality narrow as well as to deprive the practitioner of information at first hand which is often of great value.

The ophthalmoscope has become an instrument of precision in the hands of every careful diagnostician. Gower's "Medical Ophthalmoscopy," the excellent translations of Haab's atlases, and articles by Bull, de Schweinitz, Duane, Knapp, and Risley, who has drawn attention to the importance of hygiene in the care of the eyes of school children—these writings and many others have awakened an interest in ocular problems, and the questions which this paper will raise will, it is hoped, justify its presentation before a society which welcomes all information relating to the welfare of children.

In the excellent address of the Chairman, stress has been put on the importance of foresight. In the care of children, as in no other field of medicine, conditions of nutrition and of the inheritance of a disposition to disease must be anticipated and controlled before the precious moment has passed and the tendency becomes disease.

Some of the special problems met in aural disease are now recognized by the general practitioner and faced with confidence. The skin is a field full of suggestion which we study for the most varied signs of general disorder and of lessened resistance to external irritation. We do not need to know the nature of eczema or of the various forms of dermatitis to grasp to some useful degree their significance.

The meaning of the surface of the eye should be equally patent; and if it is studied as part of the surface of the body, containing in its small area some of the same problems met elsewhere, it will yield information equally significant.

In order to make quite clear the nature of the lesions to be considered, it will be necessary to review briefly the structure of the cornea. The surface consists of six or eight layers of stratified epithelium, like the epidermis, and, like this, it is renewed if scratched, without the formation of a scar. In reptiles that shed their skin, it is cast off with the external cuticle. Beneath this is Bowman's membrane, the external limiting layer. This is a firm and resistant membrane without apparent structure, which forms a very efficient protection to the stroma beneath from foreign bodies. The resistance of this membrane is evident when a foreign body penetrates the epithelium and lodges in it, and has to be picked out with a needle or when it is necessary to apply some strong antiseptic to an infection of the superficial layers. Without it, the transparency of the cornea would be in constant danger. If Bowman's membrane is destroyed, it is not renewed. Although the epithelium is loosely attached to it, this membrane is firmly connected with the corneal tissue or stroma beneath, which is formed of fifty or sixty layers of fibrous tissue inclosing spaces which contain fixed cells and lymph from the scleral vessels, which forms the only source of nutrition of the cornea.

Posterior to the stroma is Descemet's membrane, the posterior limiting layer which has on its surface, in contact with the aqueous humor, a single layer of endothelial cells. The anterior and posterior limiting layers are impervious to fluid and protect the stroma from infiltration from without and from within.

This very elementary sketch may serve to refresh the memory. In dealing with the eyes of children, it is important to remember that, while epithelial damage is not vital, an infection or injury which passes Bowman's membrane will leave an indelible trace, which is a menace to vision if it lies in the area of the pupil.

Before the child is excited by an attempt to separate the lids, the surface of the eye should be inspected if possible by daylight before a window, so that the even surface of the cornea and its reflecting properties may be studied as the eye follows the finger. Any distorting of the bars of the window, for instance, will indicate an unevenness, which is a sign of past or present trouble.

The examination of the eyes of a resisting child is not always easy, but if there is a history of eye trouble, or if there is secretion on the lashes, or if the child shuns the light and has evident discomfort and cries when attempt is made to separate the lids, the cornea must be inspected thoroughly. This requires a good light and a lens, not to be used as a magnifying glass, but as a means of focusing the light on the cornea—and any one who has to look at the eye should never be without a lens.

An assistant who can hold the child and steady the head is also needed, although the better plan usually is to hold the child's head in one's lap, steadying it between the knees, while the nurse controls the body and arms.

The best elevators are the fingers, but pressure on the cornea must be avoided and this needs practice, especially when the photophobia and blepharospasm is intense, as is often the case in phlyctenular keratitis. If it is necessary to use the elevator of Desmarres, great care must be taken to avoid scraping the cornea.

The control of the child, the arrangement of the light and of the lens, and the manipulation of the lids with due regard for the already inflamed eye may seem difficult, but the importance of these measures can not be exaggerated. An attempt to describe them in detail may be spared, since a very little practice will suggest modes of procedure which will vary with the case. Every book on ophthalmology deals with this subject. Among many excellent works, Haab's "Atlas of the External Diseases of the Eye," edited by de Schweinitz, will be found especially useful for the general practitioner.

There are three points to be considered in examining the cornea, all familiar but not the less important: the corneal reflex, the smooth surface and the transparency. Any clouding of the normal glistening reflex indicates an active process, edema or infiltration. If, with this, there is a defect or depression of the surface, an ulcer is present in an active stage. If the defect glistens, however, showing that the epithelium is restored, the ulcer is in process of repair, or there is a cicatrix. If the infiltration is deeper, beneath Bowman's membrane, the surface may be intact as in the early stage of a phlyctenule or in an interstitial keratitis of syphilis.

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909

The formation of vessels beneath the epithelium in pannus or fascicular keratitis and the deeper vessels in interstitial keratitis are to be noted. Ciliary injection and hypopyon should not escape attention and their significance is well known.

It is my purpose to impress on the general practitioner the importance of an early recognition of small lesions of the cornea. In their beginnings, most ulcers can be controlled without serious damage to the eye. Ulcers complicating gonorrheal ophthalmia do not always yield to treatment, however, but here, too, an early and vigorous treatment of the disease will usually prevent such unhappy results.

The importance of Credé's method is acknowledged and the immense progress in recent years toward the prevention of blindness is a matter of sincere congratulation. It rests with pediatricians as much as with ophthalmologists to see that laws are passed and that incompetent nurses and midwives and ignorant parents are not allowed to lose precious time in futile methods before the sovereign remedy, nitrate of silver, is used.

All cases of infants with purulent discharge should be treated as if they had gonorrhea, even if the gonococcus is not found at the first examination. The careful use of nitrate of silver does no harm and may do incalculable good.

The milder silver preparations, argyrol and protargol, should be used as adjuvants only and should not supplant the nitrate of silver in cases that show virulence. In epidemics of measles in a large children's hospital, during the past five years, these milder silver preparations have been used in all cases with secretion, and in no such case has a corneal ulcer developed, although previously such complications were not infrequent.

An ulcer of the cornea in gonorrheal ophthalmia may occur at the margin where the swollen conjunctiva overhangs the cornea or near the center where the nutrition is poor. The ulcers at the margin may be due to the accumulation of secretion beneath the swollen conjunctiva, which makes it very difficult to inspect and cleanse the cornea without abrading the epithelium. The central infection is due in many instances to injury received during examination or cleansing.

It is not the purpose of this paper to deal with treatment in these cases; but the importance of a thorough examination and of care in opening the lids and in removing the secretion can not be exaggerated.

The nutrition of an infant with ophthalmia is often a problem of greater difficulty than the treatment of the disease itself. In a recent paper[1] on this subject attention was called to this important point and reference was made to an article by Lobenstine and Harrar, who demonstrated the ill effects of gonorrhea in the mother on the early nutrition of the child. A question which is often raised is whether the child may remain at the breast. If the infant is nursed by its own mother and her intelligence permits proper care being taken to protect her own eyes, this course should be followed, but in an institution it is rarely possible without assuming a grave responsibility.

Phlyctenular conjunctivitis and keratitis has been a mooted point in ophthalmology, as is eczema in dermatology, and the two conditions have been associated as if they were of the same nature. This only adds to the confusion because it brings under one head two conditions of whose etiology little is known and which actually have little in common.

Phlyctenules are small nodules or collections of round cells beginning beneath the epithelium and frequently beneath Bowman's membrane, as has been shown by Baas. They are not vesicles, as their archaic name implies. No organisms have been found in the early stages, although staphylococci are numerous in their later development. It is probable that they arise from internal irritation, i. e., endogenously from toxins, or, as has been well expressed by Axenfeld, that they indicate the manner in which the conjunctiva, of scrofulous persons especially, reacts to various forms of irritation.

These eruptions are of importance because they appear insidiously and are often not brought to our attention until permanent damage has been done to vision. They are very frequent, especially in ill-nourished children of the poorer classes whose eyes have been neglected, particularly in those with adenoids, whose nares are obstructed and crusted, or who have eczema of the scalp and blepharitis. Undoubtedly ulcers of the cornea arise from direct infection from these sources, but the early stages of phlyctenules are quite characteristic and should be regarded as a probable indication of tuberculosis. After a phlyctenule comes to the surface as an ulcer and is secondarily infected, it loses much of its distinctive appearance, but the deeper infiltration and the vascularity are always suggestive of its origin.

In twenty cases examined recently, in addition to several with manifest tuberculosis of bones or glands, a positive reaction to tuberculin was noted in all except two cases, which were superficial ulcers and not typically subepithelial. Axenfeld has made similar observations, and Verhoeff, whose views of the relation of phlyctenules to tuberculosis have been quoted in the article previously referred to, is strongly of this opinion. These true phlyctenules should then be classed as stigmata of tuberculosis, and, as they not infrequently occur in apparently healthy children, they offer an important indication for further investigation and general treatment.

A characteristic of phlyctenules is their tendency to recurrence during any depression of vitality and their disappearance with tonic treatment and improved hygiene. With the great progress that has been made in recent years in school inspection and hygiene, this very important and interesting condition has diminished during the school age, but in the early years it is frequent, and the scars left on the cornea are too often a cause of impaired vision and lessened usefulness in later life. One meets with young men and women who wish to become stenographers or teachers or nurses, and whose intelligence justifies the ambition, but whose defective corneas make the continued eye work a source of unnatural effort and ultimate discouragement. Many cases of unilateral squint are caused by a minute fleck on the surface of the squinting eye. These local results of the fleeting and often ignored eruption in infancy are very important, and I am glad to be able to call your attention to their broader significance as a sign of a dyscrasia against which we are making a united contest.

Syphilis is a potent cause of corneal opacities and the traces which it leaves are as typical for the diagnosis of that disease as are Hutchinson's teeth. In the initial stages of interstitial keratitis, the cornea is intensely vascular, but the vessels are deeper than in pannus following trachoma or scrofula. These deep vessels are believed to be permanent, remaining visible after all infiltration has been absorbed, as fine branching twigs, extending from the limbus into the corneal tissue. They are seen when the pupil is dilated, with a + 20 D. lens

1. Cutler: Lesions of the Cornea in Gonorrheal Ophthalmia and Phlyctenular Keratitis, Am. Jour. Obst., 1909, lix, No. 4.

in the ophthalmoscope, if the observer approaches close to the patient and throws the light into his eye. This sign of an early syphilis should be available to the general practitioner, as it is sometimes present when other symptoms are absent and may throw light on obscure conditions of nutrition.

To summarize this paper in a few words, I have tried to show the importance of the normal cornea and to define the changes which have a general significance. The methods of examination have been indicated and certain precautions in the manipulation of the lids have been emphasized. The method of examination with a lens by means of oblique illumination is easily acquired and should be practiced in all cases in which the eyes show signs of irritation and as a means of diagnosis in obscure cases in which tuberculosis or syphilis is suspected. Especial stress has been laid on the early recognition of ulcers and infiltrations which, if neglected, may permanently impair the sight.

Finally, to repeat a familiar idea, the importance of recognizing latent tuberculosis not only for the sake of the individual, but of society, is obvious. Scrofula has been a useful term, but must give way to a more definite expression. It is not needed where tuberculous glands or other lesions are present in which the bacilli may be demonstrated; and in other cases if the patient react to tuberculin, and have phlyctenules or other signs of a toxemia without a discoverable focus, it may be convenient to speak of latent tuberculosis or of tuberculous toxemia.

It has been said that most human beings have successfully resisted tuberculous infection, and the corollary is that, if the condition had been recognized soon enough, the number of those who have not successfully resisted it might have been greatly diminished.

The question of the wider use of tuberculin for diagnosis in schools and especially in children's hospitals is so involved with social and economic considerations that it can not be dealt with in this paper. Nor does it belong to a discussion devoted to ocular matters, but, like most medical problems, it overlaps many fields, and the opinion of this Section would have great weight.

Certain members of the race are the hosts of organisms to which they are in a measure adapted or which they tolerate, but which are still dangerous to others.

Unquestionably "typhoid-carriers" are a very great factor in the dissemination of typhoid; so in venereal diseases, those in whom the disease is latent are most dangerous, and in tuberculosis especially no effort should be spared to discover the unsuspected cases. We may doubt whether the prophecy of Professor Lankester in his Romanes lecture of 1905—"that the knowledge of the causes of disease has become so far advanced that it is a matter of practical certainty that, by the unstinted application of known methods of investigation and consequent controlling action, all epidemic disease could be abolished within a period so short as fifty years"—will be realized, but the ideal of eugenics so recently raised must be held in mind and all possible effort made to realize it.

8 East Fifty-fourth Street.

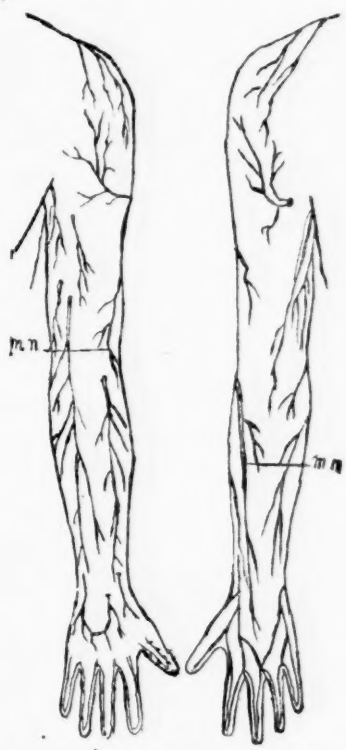
Asclepiades.—Without any increase of positive knowledge, Asclepiades and the Arabs cut loose from the teachings of simple clinical experience. Particularly the latter built up a confused mass of therapeutic measures. Their numberless old and new medicinal internal and external aids and appliances remind us of the detrimental activity displayed by the worst class of our wholesale nostrum vendors.—A. Jacobi, in *Monthly Cyclopedia and Medical Bulletin.*

Clinical Notes

AN ISOLATED NEURITIS OF A SENSORY FILAMENT OF A PERIPHERAL NERVE-TRUNK

ALFRED GORDON, M.D.
PHILADELPHIA

The peripheral nerve-trunks of the extremities, being composed of mixed motor and sensory fibers, when in a state of irritation or inflammation, will give rise to both motor and sensory phenomena. This is a common observation. An isolated involvement of either motor or sensory nerve fibers is sometimes observed. We are very familiar with motor neuritis and sensory neuritis. For example, in multiple neuritis caused by lead intoxication, motor phenomena (palsy) are almost exclusively present and the sensory disturbances are usually *nil*. In syphilis a sensory multiple neuritis may be alone present for a long time. Alcoholic neuritis may be also exclusively sensory.



Innervation of the arm; posterior aspect on the left, anterior on the right; M.N., external inferior cutaneous branch of musculospiral nerve.

If now we consider the individual branches of the main nerve-trunks of the extremities isolated, we find that palsies or inflammations of the motor divisions are not rare, but a neuritis of a sensory filament, judging from the neurological literature, is certainly a great rarity. Within the last eight months four cases came under my observation, all presenting a singular similarity in the localization, also in subjective and objective manifestations, and pointing to an involvement of the inferior cutaneous branch of the musculospiral nerve. The absence of such a record in the literature warrants the publication of my observations.

My four patients are two men and two women. Three of them are of middle age and one (girl) 23 years old. One man is a barber, the other a cutter (tailor), and the two women do housework. None of them except the girl uses alcohol. The latter uses it quite freely.

When they first consulted me, they all complained of a pain immediately behind the external condyle of the right arm. Curiously enough, in every one of them the right arm was involved. When the forearm is in pronation there is no pain. But as soon as slight pressure is made over the above spot at a distance of about a half of an inch above or below, pain was exquisite. The condyle itself is not tender. As to spontaneous or induced movements of the forearm, unless they are violent they are all painless with the exception of supination, which in three of my cases is slightly painful and in one not at all painful. The barber especially states that, while shaving or cutting hair, every time he would have to turn the hand in an outward movement, pain would appear in the mentioned area so that he was obliged to discontinue his work for a few moments. In addition to the pain brought on by pressure or by certain movements, there is also a spontaneous pain behind the external condyle and radiating down the posterior aspect of the forearm on its middle and external sides at a distance of a third of the limb. This pain is paroxysmal, comes on even when the arm is at rest and has the character of a neuralgic pain; that is, it appears suddenly without any apparent cause and is sharp and lancinating.

A careful examination for general sensations of the area of distribution of the lower cutaneous branch of the musculospiral nerve (see illustration) showed in the two men a hyperesthesia, and in both women a hypesthesia to touch, pain and temperature senses. As is well known, the dorsal external cutaneous branch of the musculospiral nerve, passing down between the outer and inner heads of the triceps, divides near the elbow into its upper and lower branches. The upper branch, the smaller, supplies the skin over the lower half of the outer and anterior aspect of the arm. The lower branch, the largest, runs behind the external condyle and supplies the skin of the middle of the back of the forearm, anastomosing with the medial internal cutaneous and musculocutaneous nerves. The partial preservation of sensibility in my patients over the area of distribution of the lower cutaneous branch is probably due to its anastomosis with other sensory branches, but why hyperesthesia should be present in some cases and hypesthesia in others is difficult to explain with certainty. The difference probably depends on the degree of inflammation of the nerve; with a greater degree of inflammation, hyperesthesia is likely to be present, while with a less degree hypesthesia will be the result. This contention finds its corroboration to a certain extent in the course of the neuritis. The two women whose affected areas were hypesthetic recovered in a comparatively short time (from two to four weeks), while the men with the hyperesthesia suffered from four to six months. To sum up, the affection presented exclusively sensory phenomena, namely, tenderness of a sensory nerve-trunk, disturbed objective sensory symptoms (hyperesthesia and hypesthesia) to all forms of sensation over the area of distribution of that nerve, spontaneous pain of a neuralgic character, commencing immediately behind the external condyle and radiating down the back of the forearm at a certain distance. No motor phenomena could be observed in the affected area and trophic disturbances were equally absent. The entire pathological picture was solely in the domain of one sensory branch of the musculospiral nerve.

It was mentioned above that pain could be brought on only by supination in three of the cases. The reason of it lies probably in the fact that the supinator longus arises from the upper two-thirds of the external condyloid ridge of the humerus and from the external intermuscular septum of the arm. The lower branch of the dorsal cutaneous branch of the musculospiral nerve, which is involved here, also separates from its upper branch at the level of the intermuscular septum. There is consequently great proximity of the origin of the nerve and muscle; a display of the latter will naturally irritate the nerve which is in a state of inflammation.

The etiology of this neuritis is probably that of neuritis in general. None of my patients could tell whether a trauma had been sustained or not; perhaps a slight trauma did exist, but passed unnoticed. Exposure to cold may have been a factor: the two women were obliged to do general housework; their arms were frequently, they say, in contact with cold water. Have the occupations of the male patients anything to do with their sensory neuritis? They said, however, that they were obliged to discontinue their work, as the latter invariably caused pain. A complete rest gave complete relief. While it is easy to conceive that some stretching of tissue and of cutaneous nerves takes place when the forearm is in a state of flexion for a long time (and this is precisely the situation with barbers and cutters), it is nevertheless difficult to attribute the neuritis exclusively to this factor, as otherwise a sensory neuritis of that particular nerve would be a frequent occurrence, which is, of course, not the case. The two male patients and the middle-aged woman have been suffering from rheumatism for years. The cutter had once an attack of occupation cramp in the right hand. The barber had once a paresis in the right hand following a cold bath. The girl is an alcoholic and perhaps syphilitic. All these predisposing factors probably played a certain rôle in the etiology.

As to the treatment, Bier's method of induced hyperemia was apparently successful in the middle-aged woman, but unsuccessful in the others. Complete abstention from work and exposure, hot baths locally applied and aspirin internally gave considerable relief. It is practically the same treatment as used in other forms of neuritis.

1430 Pine Street.

STITCH SCISSORS FOR EYE, EAR, NOSE AND THROAT

FRANK R. SPENCER, A.B., M.D.
Instructor of Rhinology and Laryngology in the University of Colorado
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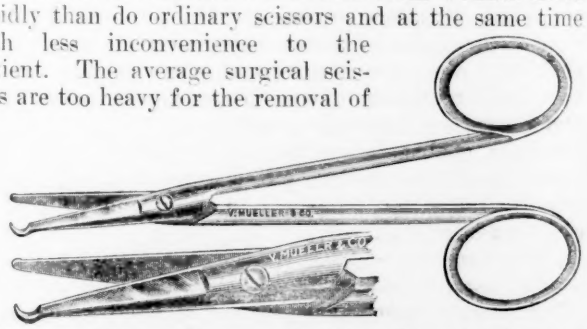
I have long felt the need of a pair of scissors which would enable me to remove stitches from wounds more rapidly than do ordinary scissors and at the same time with less inconvenience to the patient. The average surgical scissors are too heavy for the removal of



stitches, and they often permit the sutures to slip over the end of the engaging blade.

The scissors here illustrated enable one to remove stitches from the conjunctiva, lids, mastoid, turbinate, etc., with a minimum of pain.

Physicians' Block.

A CIRCUMCISION OPERATION FOR THE YOUNG

SAMUEL E. NEWMAN, M.D.
ST. LOUIS, MO.

The text-books on surgery seem to imply that a circumcision is the simplest of procedures. The operation, however, is often troublesome. Postoperative complications do occur. The penis may become edematous to the point of making urination difficult. In certain cases the swelling and induration subside only after the removal of the stitches. More or less oozing of blood may persist for days or a hematoma of no small size delay the union of the parts. Inflammation in the tissues may be marked; this may abate rapidly or pass away only after the skin has broken and discharged its pocket of pus.

There is in nearly every circumcision some swelling of the organ. When the purse-string suture was advocated this condition was marked. If many interrupted stitches are placed close together so as to secure too perfect a coaptation of the edges the edema appears very promptly after twenty-four hours. A few loosely tied stitches give a decidedly better result. The query arose why sewing was employed at all, at least in the young. Cannot the skin be cut so that the edges are sufficiently approximated for a good result? If this can be done, the blood and lymph can more readily find a vent; the trauma to the tissues resultant from handling with the tissue forceps and needle and thread will be minimized; the reaction from the operation less disturbing. In a series of cases the operation has been carried out with this idea in mind and the result has been most satisfactory. The wound required very little attention; the comfort of the patient was not interfered with; a good result was obtained in five to ten days. I recommend the operation here offered as efficient, easy and quick.

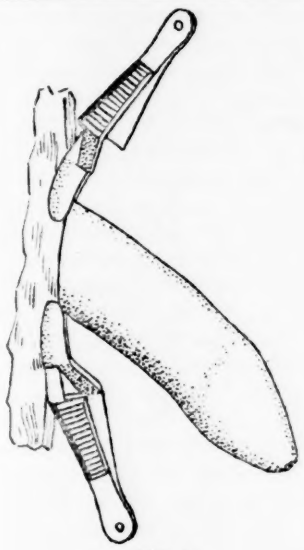


Fig. 1.

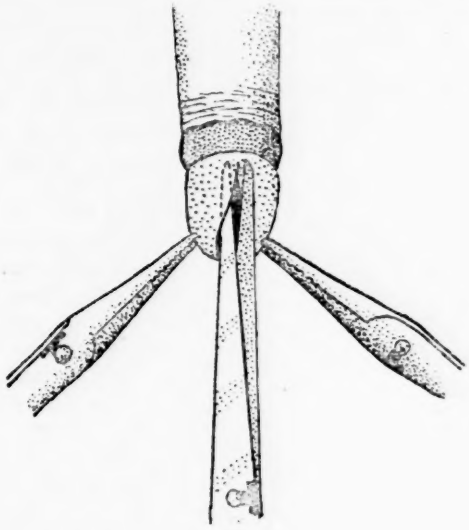


Fig. 3.

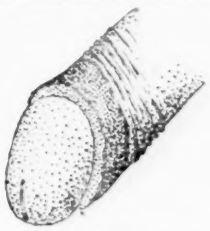


Fig. 5.

Fig. 6.

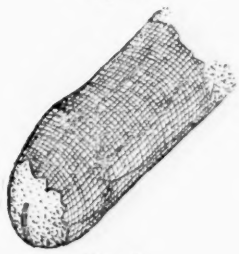


Fig. 8.

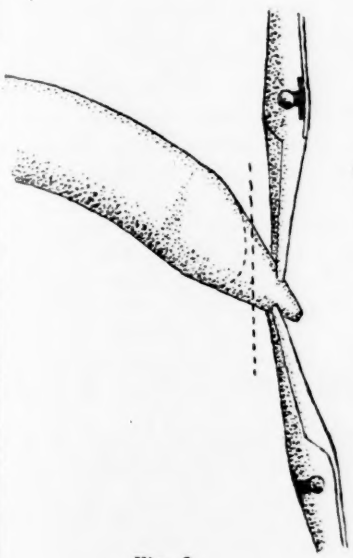


Fig. 2.

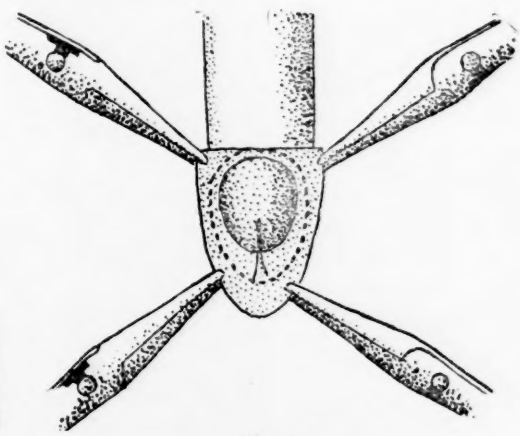


Fig. 4.

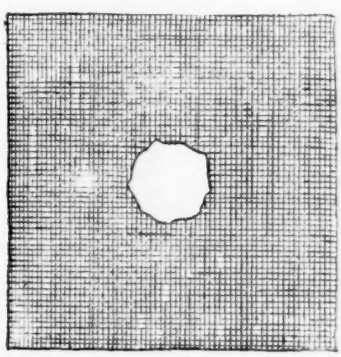


Fig. 7.

STEPS IN THE OPERATION

1. The penis is held in place by two snaps, which pinch the skin of the organ between the selvage edge of two lengthwise adjusted towels (Fig. 1).

2. When the penis is in position, the location of the glans is determined and the amount of superfluous prepuce noted. One hemostat is applied above and one below in an oblique line so that more skin is removed from the under surface than from the dorsal. The hemostats pull the foreskin forward and then the skin is cut off with straight scissors along the dotted line, as shown in Figure 2. If the tissue is correctly removed the skin edge will retract to the corona. In the removal of the foreskin of a babe in the first months of life it is well to bear in mind that the parts are all diminutive and that the entire corpus is not much longer than the glans. Carelessness in this consideration results in an almost complete denudation of the organ; the skin retracting to the base of the penis.

3. The inner skin layer, or mucous membrane layer, as it is sometimes called, is slit down the dorsal surface to within one-fourth of an inch of its attachment (Fig. 3).

4. The edges of the inner layer are held with a few hemostats to facilitate the removal of all but a small collar at its attached edge. The dotted line in Figure 4 indicates the line of excision followed by the scissors.

5. The little bleeding vessels, two to four in number, are caught up and in every case tied with plain No. 00 catgut. This saves much postoperative annoyance.

6. Figure 5 shows the skin drawn up on the corpus away from the corona. Figure 6 is the result when the skin is allowed to come forward to the corona, where it meets the trimmed margin of the mucous membrane layer.

7. A piece of gauze with a small opening at its center is steeped in melted 10 per cent. boracic petrolatum and applied to the parts at the completion of the operation (Figs. 7 and 8). The dressing is changed if it comes off and may be discarded completely on the third day. The parts are then protected by boric ointment.

CHOICE OF ANESTHETIC

The use of cocain in children is not advisable, and the general anesthetic is probably the most desirable method. Infants only a few years old may be held by two assistants and the operation done without any anesthetic. I desire to call attention to the method of bandaging the child to a board after the Indian fashion of strapping the papoose; for this purpose a narrow cushioned board and a few bandages are all that is required to hold the child firmly in place until the operation is ended.

OBJECTIONS TO THE OPERATION

It may be asked, what happens to a patient operated on in this manner if the penis becomes erect.

The parts permit the easy stretching of the wound and there are no stitches to pull open or to cut through the tissues. When the erection has subsided the tissues contract and the edges of the wound are approximated in a satisfactory manner.

Against the operation may also be mentioned the fact that much of the wound heals by granulation. While this is true, a wound which is difficult to keep free of infection should not be sewed up tight.

The object of this paper is not to lay claim to originality, but to bring before the profession a procedure which has many advantages over the operations in vogue and one which gives most pleasing results when done in patients before the age of ten or twelve years.

4900 Berlin Avenue.

A SIMPLE, RAPID, AND ACCURATE METHOD FOR THE DETERMINATION OF AMMONIA AND ACETONE IN URINE

ROSCOE W. KING
LAS ANIMAS, COLO.

Many of the propositions of chemistry, like those of mathematics, are susceptible of easy demonstration. To this class belong the following:

PROPOSITIONS

1. When 50 c.c. of fluid containing 0.5 gram of sodium carbonate, 50 mgm. of ammonia, and 25 mgm. of acetone is distilled, the entire amount of the NH_3 and $CH_3.CO.CH_3$ will pass over with the first 25 c.c. of distillate. This proposition is certainly true, but it is equally certain that it is not generally known. If it were, we should not be directed, as we usually are by text-book writers, to collect the acetone from urine by distilling 100 c.c.—or less—until seven-eighths of the fluid has passed over.[1] Nor should we have been cautioned to test the subsequent distillate for acetone.

2. When 10 c.c. of a solution containing from 0.5 to 8 per cent. of urea is diluted with 40 c.c. of water containing 0.5 gram of sodium carbonate and distilled so that 25 c.c. will pass over in from four to eight minutes after boiling begins, the distillate will contain one half as many cubic centimeters of decinormal ammonia as the solution contains grams of urea per 100 c.c.; i. e., the per cent.. of urea divided by two will give the number of cubic centimeters of decinormal ammonia resulting from ureal decomposition. The exact amount of the ureal ammonia will vary with the time required in collecting the distillate, the amount being greater as the time is longer. When, however, the time required ranges between four and eight minutes, as in practice it probably always will, the constant (per cent. urea divided by 2) may safely be used, for all clinical purposes, as expressing the amount of ammonia produced by the action of the sodium carbonate on the urea.

3. The presence of such an amount of ammonium sulphate as could occur in neutralizing the distillate from 10 c.c. of urine with sulphuric acid has no effect whatever on the accuracy of Huppert's modification of Messinger's method for estimating acetone. Ogden,[2] Simon[3] and others make the erroneous statement that acetone cannot be estimated in the presence of ammonia.

4. The presence of such quantities of alcohol as may be recovered from urine, or as may be introduced with the indicator used in estimating ammonia, in no way affects the determination of acetone by the iodoform (Messinger-Huppert) method.

On the above propositions is based the following simple, rapid, and clinically accurate method for the determination of ammonia and acetone in urine. It will usually only require about thirty minutes to carry out the process.

PROCESS

Apparatus Required.—The apparatus at present used in this laboratory is that shown in the accompanying drawing. It represents an outlay of about one dollar,

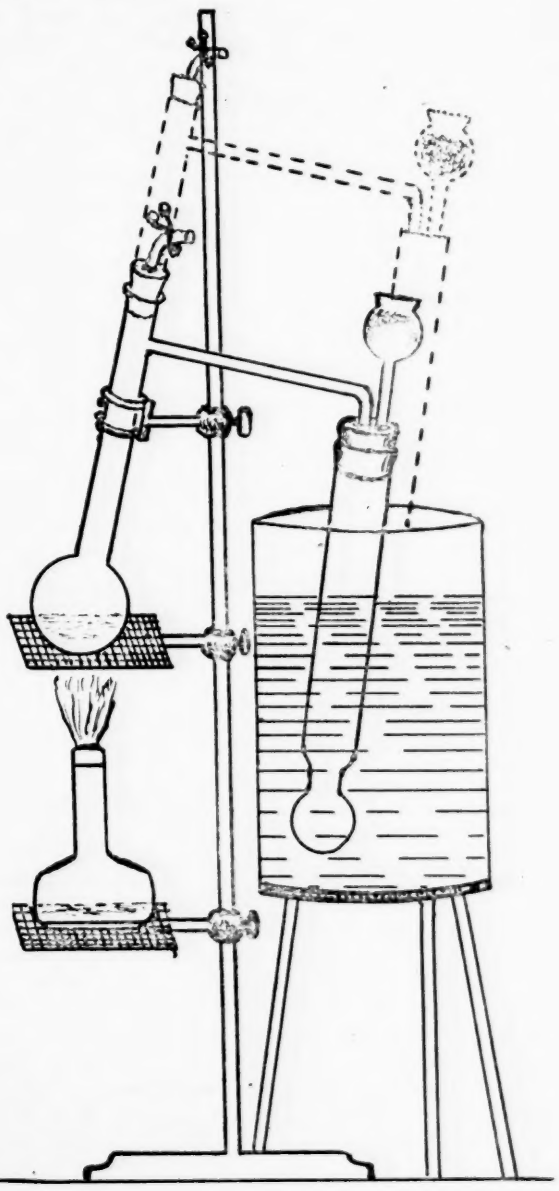
1. Autenrieth (Detection of Poisons, page 42) says: "Acidify from 200 to 50 c.c. of the urine with a few drops of sulphuric acid and distil. Collect 20 or 30 c.c. of distillate. This will contain the entire quantity of acetone in the urine."
2. Ogden: Clinical Examination of the Urine, page 176.
3. Simon: Clinical Diagnosis, page 532.

and weighs, excluding the battery jar, only 175 grams. It is light, durable, convenient, and gives good results.

Determination of Ammonia.—The apparatus being in the distilling position shown in the illustration, the battery jar is filled with water until the surface of the water is about 30 mm. below the top of the receiving tube. The apparatus is then raised into the second position, shown by the dotted lines, and held there by means of the burette clamp. The receiving tube is then removed and 25 c.c. of decinormal sulphuric acid from a pipette is poured into it. The glass wool in the thistle-headed funnel is thoroughly moistened by pouring several cubic centimeters of distilled water over it, the excess being allowed to flow into the battery jar. The receiving tube is now firmly fixed, the rubber stopper carried by the stem of the distilling flask, and the apparatus lowered into its original position. By means of a long-stemmed thistle funnel 10 c.c. of the urine[4] are introduced, followed by 40 c.c. of water containing 0.5 gm. of sodium carbonate. The distilling-flask is immediately closed and heat applied. This should be of such intensity as will bring over 25 c.c. of distillate in from four to eight minutes after boiling begins. A Barthel's alcohol or gasoline burner or a Bunsen gas burner will answer equally well. During the distillation it is advisable to stir the water in the battery jar once or twice, as otherwise the water near the surface will become unduly heated, while that near the bottom will remain cold.[5] When the distillate reaches the 50 c.c. mark on the receiving tube the source of heat should be removed, the air-cock on the distilling flask opened, and the glass wool washed by pouring about 25 c.c. of distilled water through it into the receiver. Now the apparatus is raised into the second position, the receiver removed and its contents transferred into a flask containing about 200 c.c. of distilled water. A few drops of cochineal,[6] or, wanting this, alizarin red, are added as indicator, and the decinormal sodium hydroxid solution run in[7] from the burette until a permanent change of color results. The number of cubic centimeters of the decinormal sodium hydroxid required deducted from 25 will give the total number of cubic centimeters of decinormal ammonia contained in the distillate. From this amount are deducted one-half as many cubic centimeters as the per cent. of urea which the urine contains, and the remainder multiplied by 0.017. This will give the per cent. of ammonia contained in the urine; i. e., grams of NH_3 per 100 c.c. This may be represented in formula as follows:

$$Y = 17\ [25-(X + \frac{\%\ \text{urea}}{2})]$$

In this formula Y is the number of milligrams of ammonia contained in 100 c.c. of urine, when X is the number of c.c. of the decinormal NaOH required to neutralize the excess of acid.



The apparatus shown in the drawing consists of the following: 1. A 250 c.c. Baloc distilling flask fitted with a rubber stopper through which passes a short glass tube, over which is fitted a short rubber tube. This air-cock arrangement is opened or closed by means of a Hoffman's tubing clamp. The remote end of the stem of the distilling flask is bent as shown, and is tightly fitted into a two-holed rubber stopper; the end of the tube should reach 25 or 50 mm. below the stopper. 2. Through the second hole of this stopper is passed the stem of a thistle funnel, the stem having been filed off to a length of about 75 mm. The head of the funnel is loosely packed with glass wool. 3. A large (100 c.c.) potato culture tube carrying a mark around the circumference at the 50 c.c. point. This is obtained by pouring 50 c.c. of water into the tube and marking with a wax pencil. A file being subsequently used. 4. A three and one-half liter battery jar. The use of the tripod permits the water in the jar being changed without the slightest inconvenience. The dotted lines show the second position of the apparatus. This allows the receiving tube to be easily removed or placed in position.

4. If the urine cannot be had soon after it is voided it should be preserved with a few drops of chloroform. If more than a trace of albumin is present it should be removed before distilling.

5. Three distillates may be collected without changing the water in the battery jar, provided it has a capacity of three or four liters.

6. An excess of the indicator must be avoided. The best results may be obtained by adding a very small amount—say half a grain—of the powdered cochineal.

7. As a simple and accurate means of standardizing volumetric acid and alkali solutions I suggest the following procedure: 1. Dissolve about 50 grams of sodium hydroxid (pure sticks by alcohol) in 1,100 c.c. of distilled water. 2. Accurately weigh 3.3 grams of chemically pure ammonium sulphate and dissolve in sufficient distilled water to make 500 c.c. 3. Dilute 25 c.c. of formalin (40 per cent. HCOH) with about 75 c.c. of distilled water. Add several drops of phenolphthalein and then run in the sodium hydroxid solution from the burette until a faint pink color is permanent. 4. Measure accurately 25 c.c. of the decinormal ammonium sulphate solution into a small flask and add about 15 c.c. of the neutral formalin solution. This liberates exactly 25 c.c. of decinormal sulphuric acid. Now add a few more drops of the phenolphthalein and run in the sodium hydroxid from the burette until a permanent, faint pink color appears. Repeat the experiment and from the data obtained correct the remaining sodium hydroxid solution by adding to 1,000 c.c. of it a sufficient amount of distilled water to make 25 c.c. of it correspond to the acid liberated by an equal volume of the decinormal ammonium sulphate solution. From the resulting decinormal sodium hydroxid solution can then be prepared the decinormal sulphuric acid. Inasmuch as ammonium sulphate can easily be obtained of great purity, and contains no water of crystallization, it is believed that it will afford a more accurate means of preparing decinormal solutions than either oxalic acid or sodium carbonate. Decinormal solutions made in this way have, in this laboratory, been found to agree exactly with those standardized gravemetrically.

Determination of Acetone.—The neutral fluid obtained in the ammonia estimation is, if necessary, made up to 300 or 350 c.c. with distilled water and 10 c.c. of decinormal iodin added, followed by 10 c.c. of a 10 per cent. aqueous solution of sodium hydroxid. This is allowed to stand for fifteen minutes; then 10 c.c. of a 10 per cent. (by volume) sulphuric acid solution are added. The free iodin is then determined by means of decinormal sodium thiosulphate solution.[8] This is run in from the burette until only a light brownish-yellow color remains. At this point ten or fifteen drops—not more—of the starch solution[9] should be added and the thiosulphate solution should be added by degrees until the blue color is just discharged. The number of cubic centimeters of the thiosulphate solution required deducted from the total number of cubic centimeters of the iodin solution used will, when multiplied by 9.7, give the number of milligrams of acetone contained in 100 c.c. of the urine. One c.c. of decinormal iodin combines with 0.97 mgm. of acetone. But as only 10 c.c. of urine were used, the number of cubic centimeters of iodin required is multiplied by 9.7 to get the number of milligrams of acetone in 100 c.c. of urine.

It need hardly be said that the above method for estimating acetone is proposed as being clinically accurate, and that it is reliable, experiments leave no room to doubt. How nearly the results may be made to approach absolute accuracy is not definitely known at present. It is not thought probable that the error will ever exceed 2 or 3 mgms. of acetone in 100 c.c. of urine. Variations of this magnitude may easily occur in perfect health, and hence, from a clinical standpoint, are of no importance whatever. The method is, of course, not applicable to urines which contain sugar, since acetone is produced when dextrose is treated with boiling alkaline solutions. If the urine contains as much as 5 or 10 per cent. of sugar it would, when distilled as above with the sodium carbonate solution, yield about 5 mgm. of acetone as a result of the decomposition of the carbohydrate.

In the presence of sugar the following procedure should be adopted. It requires but little more work and no more time: (1) Dilute 10 c.c. of urine with 40 c.c. of water. Add enough 36 per cent. acetic acid—about 1 c.c.—to make strongly acid to litmus. Place 25 c.c. of water in the receiving tube. Distill until 25 c.c. come over. The distillate and washings from the glass wool is made up to about 300 c.c. and the acetone determined as directed above. (2) While waiting for the iodoform to separate take an additional 10 c.c. of the urine and dilute with 40 c.c. of water containing 0.5 gram of anhydrous sodium carbonate and, having placed 25 c.c. of decinormal sulphuric acid in the receiving tube, distill over 25 c.c. Estimate the ammonia as directed above.

If the acetone distillate contains nitrous acid, the results will be vitiated owing to the decomposition of the potassium iodid contained in the decinormal iodin solution. The distillate will, however, never contain nitrous acid unless the urine has undergone bacterial decomposition. Since reliable information is not sought from an analysis of badly decomposed urine, the presence of nitrous acid is an exceedingly improbable source of error. It may, if present, be detected with a little starch-potassium-iodid solution, and eliminated by adding a little urea to the distillate. I have applied this reliable test to the distillate hundreds of times, but have abandoned it as a routine procedure, as in no instance has nitrous acid been found present.

8. In case the urine contains more than 98 mgm. of acetone in 100 c.c. no free iodin will be liberated on adding the acid. This will not often be the case, however, but should it occur it will be necessary to add an additional 10 c.c. of the iodin solution; again, to make alkaline with about 15 c.c. of the sodium hydroxid solution, allow it to stand about fifteen minutes, as before. This procedure could always be obviated by adding 25 c.c. of the iodin solution in the first place. This should be done when acetone is known or suspected to be present in greatly increased quantities.

9. Made by adding 1 gram of starch to 100 c.c. of 0.5 per cent. sodium hydroxid in distilled water, heating to the boiling point and cooling in running water. This solution will keep for several months

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CARCINOMA OF THE SIGMOID WITH METASTASIS IN THE LEFT ILIUM

REPORT OF A CASE

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AND

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When reading the recent literature on carcinoma of the sigmoid, we were impressed by the fact that the most important question is not so much one of operative technic, but one of early diagnosis, the point dwelt on by Armstrong and by Bloodgood.

The classic symptoms of this disease are all signs of a late stage, namely, obstruction of the bowels or its results. There is a dearth of signs which indicate this condition in its incipiency. Sigmoid carcinoma gives a good prognosis only when operated on in its earliest stage. This paucity of signs in the early stage justifies a more frequent employment of explorative laparotomy even when the symptoms are insufficient to establish an early diagnosis. The so-called pathognomonic symptoms of this disease are in reality manifestations of a late stage at which we can seldom expect a cure by operation.

A history of the following case, bearing on the above, seems to us of sufficient importance to be recorded in the surgical literature. Dr. Benson reports the following:

History.—On June 18, 1908, early in the morning, Mrs. K., aged 42 years, consulted him, stating that she had been awakened the previous night by severe pains in the abdomen. After a short interval she felt nauseated and began to vomit. As far as he could learn, the vomitus consisted of some particles of food and slime together with a small quantity of a yellowish fluid. She added that there had been no bowel movement for the past three or four days. Pulse was somewhat accelerated and the temperature normal. Consent to a more thorough examination could not be obtained at this time. The patient merely wanted something to relieve her pain, believing her symptoms trivial and temporary. For the vomiting Dr. Benson prescribed hourly doses of 1/10 grain of calomel, small pieces of ice, and rest in bed. In addition enemas of soap-suds were given and all food and drink was withheld. The same afternoon the pain became more severe. The vomiting had almost ceased. Repeated enemas of soap-suds were ineffective. Patient stated that she had been previously healthy. Her family history was negative. She had been married twenty years and had never been pregnant.

Examination.—The patient was fairly well nourished; her color was good. Cachexia was noticeably absent. The thoracic viscera were examined in detail. All were seemingly normal. The abdominal findings were: Liver and spleen were not enlarged. There was very little distention. No tumor could be found. Bimanual examination through vagina and through rectum revealed nothing abnormal. An examination of the urine proved negative. From the above findings, obstructions

which form enlargements could be eliminated. The picture was that of a chronic obstruction in the distal portion of the colon, the sigmoid.

The following day the patient's bowels moved. An emulsion of castor oil (Fenner's formula) had been given. The stools were not saved for the physician's inspection. The patient ceased visiting him. On June 27, 1908, patient returned and said that her bowels had not moved for three days. Magnesium sulphate was given. At 2 a. m. June 28, 1908, the doctor was called to see her in an acute attack. It was similar to the first but more severe. The patient's abdomen was more distended. Her temperature was 99.8 F. The abdominal pain was more severe. Pulse was 84. Morphin sulphate was given hypodermically to allay the pain. The enemas and other directions were the same as during the first attack. Dr. Louis Rassieur saw the case with Dr. Benson a few hours later. He concurred in the diagnosis of a bowel obstruction and that it was probably due to sigmoid cancer. Patient was sent to the hospital June 29, 1908. Here the sigmoidoscope (Strauss) was introduced. At a depth of 18 cm. a seeming narrowing of the lumen could be seen. During the examination a little liquid feces passed the point of supposed stricture. The following day this procedure was repeated. The sigmoidoscope was introduced for 24 cm. and no stricture could be seen.

First Operation.—A laparotomy was made by Dr. Rassieur on July 2, 1908. An incision was made in the median line below the umbilicus. There was no ascites. The sigmoid presented a constriction. It looked as if a ligature had been passed around the intestine. There were no adhesions. About 15 cm. of intestine were excised, including the part of the mesentery which contained several indurated lymph nodes. An end-to-end anastomosis was made. The sutures were of Connell type and of linen. The abdomen was closed without drainage. The constricted mass of the intestine was hard.

The bowels moved two days after the operation and have since been regular. The wound healed by first intention. On the third day after the operation the patient complained of pain along the course of the left external cutaneous and the left ilioinguinal nerves. The patient's general condition improved rapidly, however. The pain steadily increased in severity, notwithstanding the giving of antirheumatic and antineuralgic drugs. In the latter part of September, 1908, the soft parts over the crest of the left ilium seemed to be somewhat enlarged and of a doughy consistency. The bone also seemingly showed a thickening. An *x*-ray picture verified this view. No other metastasis could be found.

Second Operation.—This was made October 19, 1908, to remove the enlargement of the ilium. An incision was made over the crest of the ilium from the posterior superior spinous process of the ilium to the middle of Poupart's ligament. The muscles and fascia were edematous. The peritoneum was not adherent and fell away on division of the muscles. A tumor of the ilium of osteoclastic nature 5 inches by 3¼ inches by 2⅝ inches was removed with bone drill and Gigli saw. An additional rim one-half inch in diameter was removed from the ilium with rongeur forceps. Then the fascia lata and the divided fascia iliaca were again united to the fascia iliaca. A small cigarette drain led to the bone. Portions of external cutaneous and ilioinguinal nerves were excised.

Postoperative History.—The convalescence after the second operation was uneventful up to the middle of February. Until that date the patient was free from pain; there was no recurrence of the tumor; no hernia marked the site of the removed bone, and a slight limp alone hinted at the disturbed relation of the muscles. On March 16, 1909, we learned, the patient again walked with difficulty. She had pains in the affected lower extremity, extending down into the foot, which kept her awake. She presented a tumor on the left iliopectineal eminence, the beginning of which, she said, was insidious about four weeks before. An operation was advised. Owing to circumstances which we could not avoid, the patient was transferred to the care of other physicians.

Description of First Specimen.—The stricture of the sigmoid was so fine as to forbid the passage of the smallest surgical sound. A cup-shaped ulcer was on the distal side of the stricture. Microscopic examination showed the original tumor to be very small. The contraction and cicatrization were seemingly due to secondary inflammation. The specimen was an adenocarcinoma. In some instances the excretory duct of the cancer tubules could be seen emptying in the end of the Lieberkühn glands. There were few glandular metastases showing tubo-alveolar arrangement and round-cell infiltration.

Description of Second Specimen.—The diameters of the metastases in the bone were stated above. The tumor was osteosclastic and originated in the medulla of the crest of the ilium. A smear of the medulla, stained with azur No. 2, showed cancer cells. A hardened section stained with Unna's polychrome methylene blue and Unna Taenzer's elastic stain showed an adenocarcinoma with many figures of indirect cell division and remains of bone.

The first and second *x*-ray pictures showed the tumor, which extended on the inside almost to the brim of the pelvis and on the outside almost to the acetabulum. The third *x*-ray picture showed the remains of the bone and an absence of recurrence. The fourth, made Mar. 20, 1909, showed a tumor over left iliopectineal eminence and a questionable shadow on left trochanter. The radiographs were made by Dr. Carman.

In conclusion, we believe the following points of especial interest:

1. Extreme stricture of the sigmoid with such a paucity of clinical signs.

2. A seemingly solitary metastasis and that in the ilium of the same side and apparently none in the usual site.

3. The shortened convalescence after excision of the sigmoid and union without drainage.

4. The value of a second operation to remove a seemingly solitary metastasis, demonstrated by the patient's temporary improvement. We were in hopes that this might even prove a cure.

5. Absence of hernia after removal of so large a portion of the iliac bone.

6. The value of the *x*-ray in the demonstration of bone metastasis.

We wish to add that, after a careful perusal of the literature, not a single case was found in which there was a seeming single metastasis, even in the iliac bone (an accessible field).

2136 Benton Street—316 Metropolitan Building.

Evolution in Purin Metabolism.—According to the studies of H. G. Wells (Trans. Chicago Path. Soc., May 1, 1909), the invertebrates are able to convert adenin into hypoxanthin and guanin into xanthin, showing the presence of the enzymes, adenase and guanase, but the metabolism proceeds no farther. Passing upward in the scale of animal life to the birds and reptiles we find that nitrogen is excreted chiefly in the form of uric acid. Mammals form uric acid only from the purins and have the power of destroying some of the uric acid formed. The enzymes that destroy uric acid seem to be the last formed in development and are possessed by various mammals in varying degrees and in the same animal often show an uneven distribution in the various organs of the body. This uricolytic power is relatively weak in man. Wells cites the observations of Mendel and Mitchell on embryo pigs as illustrating the biologic law that the individual in its development reflects the entire development of the species to which it belongs (*Am. Jour. of Physiol.*, 1907, xx, 97). They found nuclease and adenase at very early stages, but no xantho-oxidase until the fetal pigs had reached a length of 200 mm. or over. In other words, in its earlier stages of development the pig possesses only the same purin enzymes as the invertebrate, while somewhat later it is equipped as the birds and reptiles may be supposed to be; that is, with xantho-oxidase, but without uricolytic enzymes. The uricolytic enzyme is wanting entirely until after birth, when it soon makes its appearance, but in the suckling pig it is still not so active or abundant as in the adult animal. This enzyme is, therefore, the last of the entire series of purin enzymes which is acquired by the developing individual, just as it seems to be the last to be acquired in the evolution of the animal kingdom.

Therapeutics

PNEUMONIA AND ITS COMPLICATIONS

Since the discovery of the tubercle bacilli by Robert Koch, in 1882, much has been learned in regard to the rôle of micro-organisms in the pathology of disease. These discoveries have been supplemented by and have rendered possible the introduction of antiserums and vaccines in the treatment of some diseases. Of these the antiserum, or, as it has been commonly called, the antitoxin of diphtheria, is the most successful one and the one best known. Diphtheria is recognized as a general toxemia produced by a local infection.

Acute pneumonia, on the other hand, is practically always a pneumococcus septicemia. The pneumococcus (the *Diplococcus pneumoniæ*) which Fraenkel discovered in 1883 is the cause of true pneumonia. This organism is not confined to the lungs or to locally infected areas, but may be found in the blood. It has been shown that antipneumococcus serum has no bactericidal effect on living pneumococci, and that different strains of pneumococci are not affected in the same way by different vaccines; so that animals immunized against one strain are not necessarily protected against others. Hence it has been found desirable to prepare the vaccine from cultures made from the pneumococcus infecting the individual patient. When this is impracticable, a vaccine from a particularly virulent strain may be used.

"The bacterial vaccine consists of the specific organism isolated in pure culture and, after destruction by heat, suspended in normal salt solution."—(Floyd and Worthington, *Boston Medical and Surgical Journal*, Jan. 2, 1908). In acute pneumonia, a pure culture may generally be obtained from the "rusty" pneumonic sputum.

Dr. A. Butler Harris, of London, has recently published (*Brit. Med. Jour.*, June 26, 1909) a report of his investigations and observations on the vaccine treatment of pneumonia. Harris grows the pneumococci obtained from the patient on agar-agar which has been smeared with a thin layer of blood drawn from the finger. When the patient's sputum is not available, he advises the withdrawal of some of the patient's blood from the median basilic vein, and generally thus obtains enough pneumococci for the culture. His technic is well described in his article.

It has been found that the pneumococcus is present at different times, somewhere in the air passages of perhaps 50 per cent. of all individuals, especially during the winter. The most characteristic location for the manifestation of its pathologic action is in the lungs, where the inflammation that it causes usually runs an acute and rather short course. By no means infrequently, however, cases occur in which the lung lesion does not resolve and the pneumonic process continues and the pneumococcus persists, or the pneumococcus has infected other regions which do not tend to heal, such as the pleura, peritoneum, endocardium, joints, veins, and middle ear. These are typical instances in which pneumococcus vaccine should be used.

Harris reports eleven cases of various forms of pneumococcic infection. Three patients died early from failure of the heart. One man, aged 36, died on the fifth day, after having received inoculations on the third, fourth and fifth days. A man, aged 58, was taken with recurring rigors and consolidation of the base of the left lung. He received an inoculation the same day at 6 p. m., and the next morning at 10:30 a. m. was convalescent. The other seven cases were of a chronic character and included delayed pulmonary resolution, empyema, asthma, and joint infection. All were benefited by the inoculations.

The dosage varies from ten to twenty millions of dead pneumococci in children of 3 or 4 years of age to from thirty to eighty millions for adults. The dose may be repeated every twenty-four hours if necessary, or every third or fourth day.

Harris summarizes his conclusions as follows: "1. Successful inoculation for pneumonia is possible. 2. Inoculation does no harm. 3. A vaccine from one or a number of virulent strains should be used. 4. It should be introduced as early as possible. 5. The estimation of the opsonic index is not necessary. 6. The observation of the temperature and physical signs is in pneumonia a sufficient guide in gaging the repetition of the dose."

We can but agree with his final proposition, viz.: that "infections of the lung by the pneumococcus which fail to resolve after an acute pneumonia, as well as pneumococcus infections of other areas, ought certainly to be treated with a pneumococcus vaccine." An autovaccine should be preferred, and the prospect of successful treatment seems good.

DIET IN CHRONIC DISEASES

This is the age of "diets" and fads in diets. Whether the well eat too much or too little, too frequently or too infrequently, too much protein or too little protein, too much carbohydrate or too little carbohydrate, is a subject too large and too varied to discuss here. It is important, however, and necessary to analyze carefully the food and digestive power of a patient who is suffering from chronic disease or disability.

It is certain that unnecessary amounts of or ill-chosen food can cause fermentation and even putrefaction in the intestines. If actual autoinfection is not caused, certainly nervous and circulatory irritants may be absorbed from such abnormal intestinal fluids. These irritants may create disease, and certainly will augment disease that is present.

Dr. William H. Porter, of New York, writes a thoughtful paper (*Post-Graduate*, June, 1909) on the subject of this article, and specifically presents a diet that he says will minimize intestinal indigestion. He calls to our mind the subdivisions of food as:

1. Inorganic, including water and salts.
2. Cellulose, starch, and sugar. } Heat-producing
3. Fats of all kinds. } substances.
4. Proteins.
5. Protein-like compounds, to which an atom of iron and phosphorus is attached in its synthetic formation. These may be distinguished as hemoglobin-yielding and lecithin-yielding substances.

The last two classes are the construction tissue building protein compounds.

Each of these five classes must be represented in the daily dietary in order to insure the most satisfactory nutritive results, and at the same time caution must be exercised that the total amount of food be kept within the "oxygenating capacity" of the system.

The five classes of food enumerated above are contained in both animal and vegetable foods. Accordingly, it is not surprising that there have been advocates of an exclusive vegetable diet; and, on the other hand, that it has been proposed to exclude articles of vegetable origin more or less completely from the diet, food of animal origin only being advised.

In order to correlate an adequate amount of the different classes of food to fulfill the demands of the body for heat-producing, tissue-building, and hemoglobin-yielding, and lecithin-yielding substances with the "oxygenating capacity" of the body, it has been found that a mixed diet, comprising both animal and vegetable substances, is most advantageous.

In health, Nature allows a considerable latitude between the amount of food which can be taken and the "oxygenating capacity" of the body. But in disease conditions are changed, the "oxygenating capacity" is lessened, and care must be taken not to overtax it by excess in ingestion of food beyond the body demands.

With the above generalizations Porter suggests the following as an ideal mixed diet for patients who are suffering from chronic disease:

"For breakfast: Two eggs, eight ounces of milk, two ounces of wheat bread and butter.

"For the mid-day meal: From one-quarter to one-half pound of beefsteak, eight ounces of milk, three ounces of wheat bread and butter.

"For the night meal: From one-quarter to one-half pound of beefsteak, eight ounces of milk, two ounces of bread and butter.

"At bedtime: Eight ounces of milk."

Beefsteak is used as a representation of the meats because it is most easily and perfectly digested; for it may be substituted lamb, mutton, veal, fish, poultry, and game.

If it is desired to enlarge this diet by substituting a vegetable in place of a part of one of the articles enumerated, string beans, green peas, lima beans, spinach, lettuce, asparagus or cauliflower, well cooked, may be permitted.

Porter enumerates as foodstuffs to be avoided "all fruits, either cooked or raw; all cereals and breakfast foods, nuts, sweets and pastry of all kinds, potatoes in all forms, onions, tomatoes, turnips, parsnips, carrots, celery, radishes, cabbage, egg-plant and oyster-plant, corn, etc.; pork in all forms, except as before stated, rich gravies, and all forms of soups." Most of the above articles he finds difficult of digestion and promoters of fermentation and putrefaction in the alimentary canal. Potatoes are easily and rapidly digested and consequently the "oxygenating capacity" of the body is overtaxed, so that the protein constituents of the food are not oxidized and assimilated, as they must be if a perfect state of health is to be maintained.

Finally, Porter sums up his conclusions as follows:

Animal food is more nearly a perfect nutritive than vegetable food.

Animal food is more easily digested and assimilated than vegetable, and therefore more economical to the system.

A perfect or ideal diet should comprise both animal and vegetable food.

The diet, consisting of the exact proper combination of animal and vegetable food, found to be the most perfect for the individual patient, combined with whatever medicinal and physical treatment deemed advisable, will often produce "marvelous" improvement in the patient.

No Milk in Summer Diarrhea.—In the treatment of babies affected with the infectious diarrheas of the summer season, milk has no place. Whether we are dealing with a milk infection or not, and usually we are, milk will still furnish a splendid culture medium for the bacteria still inhabiting the disturbed gastrointestinal tract.—J. H. McKee, in *Monthly Cyclopedia and Medical Bulletin.*

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 1643)

SODIUM PERBORATE.—(See SECOND SUPPLEMENT to N. N. R., 1909.) Proprietary Preparation:

PEROGEN BATH—Oxygen Bath Salts. Perogen.—Perogen bath is a preparation consisting of a catalyzer and sodium perborate capable of yielding 10 per cent. of oxygen, the two substances being wrapped separately.

The catalyzer is a light yellow odorless powder, and is made by a method which is the subject of a patent application now pending. The oxygen contents may be determined by any of the well-known methods.

Actions and Uses.—The catalyzer is a medicinally indifferent substance. When the two substances are mixed with water the catalyzer causes the liberation of the available oxygen of the sodium perborate. The oxygen bath thus obtained is said usually to reduce blood pressure and the pulse rate to a much greater extent than the ordinary bath. It is claimed to have marked tranquilizing and somnifacient effects. It is said to be useful in cardiac affections with high vascular tension and excitement, neuroses, insomnia, chronic nephritis, and skin diseases in which hydrogen dioxide is indicated.

Dosage.—One bath daily up to 24 or 48, with occasional intermissions.

Manufactured by Morgenstern & Co., 59 Maiden Lane, New York. U. S. patent and trademark applied for.

METHYL CHLORIDE—Methylis Chloridum.—Methyl chloride, CH_3Cl, is the methyl ester of hydrochloric acid. It occurs, in the compressed state, as a colorless liquid, having an ethereal odor, and a sweet taste.

Methyl chloride is insoluble in water, more readily in alcohol, freely in ether and chloroform, and also in acetic acid. It should be neutral to litmus paper. At about —25° C. (—13° F.) it has a specific gravity of 0.991, and boils at about —21° C. (—5.8° F.). It burns in air with a greenish flame, though it is not highly inflammable. The neutral solution is not precipitated by solution of silver nitrate, nor is there any reaction with potassium iodide and starch paste. In the liquid condition it is a powerful refrigerating agent. At very low temperatures it forms with water a hydrate, $CH_3Cl,9H_2O$. It should not react alkaline to litmus (absence of ammonia and methylated ammonia—methylamine). It should not immediately form a precipitate with silver nitrate. On evaporating it should leave no residue and emit no odor of methylamine.

Action and Uses.—By its evaporation a temperature of —23° (—9.4° F.) is produced, while if evaporation be accelerated by means of a current of air a temperature of —55° (—67°F.) may easily be reached. On account of this property it is used as a local anesthetic in the form of a spray, but its use requires caution, since it is apt to produce blisters. The diluted vapor is said to be non-poisonous. Methyl chloride is said to be an efficient general anesthetic, which has practically no influence on the circulation, but fails to produce complete muscular relaxation. It is used as a general anesthetic mixed with ethyl chloride and ethyl bromide.

Dosage.—When sprayed on the skin the part should be partly protected by a thin layer of cotton wool. When used locally cotton wool soaked in liquid methyl chloride may be applied to the skin over the painful area, but care should be taken that blisters are not formed. In order to avoid this a mixture with ethyl chloride has been recommended.

(To be continued)

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 20, 1909

MEAT EXTRACTS AND BEEF JUICES

While the extreme importance of carefully planned dieting of patients has been recognized for centuries, it is only in comparatively recent years that this subject has been studied by methods as precise and logical as those that have been devoted to other great problems in medicine. At present, however, we have means of learning accurately many of the most fundamental facts regarding the nutritive value and the composition of foods. Therefore, in the increasingly successful struggle now in progress to put therapeutic methods on the same scientific plane as diagnostic methods, it is our duty to scrutinize foods—especially those that are particularly recommended for the invalid or sick—in the same judicial way that we do drugs and other measures. That is, we must form opinions, not on the basis of vague impressions of the apparent results of the use of foods, and especially not on the basis of statements of manufacturers or other interested parties, but primarily in accordance with their composition and the food value that can be determined from this. Investigations like the report of the Council on Pharmacy and Chemistry on medicinal foods, Winton's and Fetterolf's analyses of diabetic and similar foods, and other disinterested studies, already have shown us that with foods, as with drugs, we can find a limited number of proprietary articles that are what they are advertised to be, but unfortunately many more that are not. In some instances the facts are startling as compared with claims made—startling because these preparations have been widely employed in serious conditions, when misapprehension as to the nutritive value of the food used is likely to be highly dangerous.

In many respects the most astonishing report on such preparations is that which appears in the Department of Pharmacology in this issue, dealing with substances purporting to be beef-juice or meat-juice. With many physicians—and with many of the laity—the names of some of the preparations that the report deals with have been names to conjure with. Anything that lays claim to being the best part of good red beef sounds so nourishing that the name itself makes people feel fed. It is humiliating, but most enlightening, to physicians who have used such preparations to learn that these are not beef-juice or meat-juice at all. It is even more important to note the surprisingly low calorific value. Not only have these preparations been sold under names that have given them an exaggerated value, but their value under any name is so slight that we cannot escape the conviction that many persons must have been simply starved while, with firm faith in the reputed value of the extracts, the prostration and emaciation have been attributed to the disease instead of to the lack of nourishment in the "food." All the advertising arguments conceivable, all the specious claims that can be advanced, cannot change the fact that to give a patient a microscopic fraction of the amount of energy that he necessarily expends is starvation. It is really appalling to see the difference between the claims and the facts. One manufacturer claims that a tablespoonful of his preparation equals in value one hundred grams of raw meat; as a matter of fact it contains a little under four calories to the tablespoonful, while one hundred grams of meat, even when very lean, contain 125 or more calories. Another preparation, according to the advertisements, contains in two ounces the concentrated juice of four pounds of the best beef; actually it appears to contain absolutely no beef-juice and is merely a thin meat-extract.

Doubtless the manufacturers will argue that, no matter what analyses show, the extensive sale of their preparations proves their value; doubtless, too, there are physicians who will be willing to assert that they have derived good results from the use of these products. Scientifically considered, such arguments are of the *post hoc, ergo propter hoc* variety. Patients who have recovered when given preparations that are nutritively worthless have recovered in spite of, and not because of, the "food" administered—or because semistarvation was indicated in these cases. Not only laymen, but even some physicians, have not yet divorced themselves from those medieval methods of thought which credit any artificial means of treating disease, be it ever so absurd, with results that are more rationally attributable to the *vis medicatrix naturæ*. This fallacy is nowhere more evident than in the therapeutics of so-called medicinal foods. Verily, strange therapeutic idols have been worshiped by those who have used such preparations, but the day of false gods is drawing to its close. With further contributions like the one which appears in this issue, we may hope that vagueness and uncertainty in dietetics will give way to rationality and precision.

THE PATHOGENESIS OF SPONTANEOUS CEREBRAL HEMORRHAGE

Since the classical article of Charcot and Bouchard in 1868 it has been common knowledge that cerebral hemorrhage is associated with the presence of minute aneurisms in the smaller, intracerebral arteries, and that the hemorrhage is presumably the result of the giving way of these aneurismal dilatations. In sixty cases of cerebral apoplexy these authors found miliary aneurisms, from two to hundreds in each brain, arising

on arteries of a diameter of 0.03 to 0.25 millimeter, and established by their research the significance of the aneurisms in the pathogenesis of cerebral hemorrhage. Earlier investigations, however, had already pointed out the existence of these aneurisms, Morgagni himself in 1761 having stated that rupture of the cerebral arteries was a consequence of their widening, whereby the walls became thinned; but it was not until 1859 that the actual source of a hemorrhagic extravasation in the brain was detected in a ruptured miliary aneurism by Gull. The reason for this tendency of the small cerebral arteries to undergo aneurismal dilatation and rupture seems to be twofold: In the first place, these vessels lack a firm external support because of the softness of the brain tissue and the delicate structure of the adventitia surrounding them; in the second place, as Mendel demonstrated in 1891, the blood pressure in the arteries of the basal ganglia is greater than in the other parts of the brain.

Just what changes take place in the vessels during the formation of the aneurisms, and the relative importance of aneurism formation and rupture of undilated vessels as the source of cerebral hemorrhages, are matters concerning which there has not been agreement, and there is also dispute as to whether the dilatations are true or false aneurisms. In an excellent paper, from which the preceding historical review has been abstracted, A. G. Ellis[1] reports an extensive reinvestigation of these old problems by modern methods. In thirty-one cases of cerebral hemorrhage he found macroscopic aneurisms, varying in size from 0.5 to 4 millimeters in diameter, and in four cases ruptured aneurismal sacs were found. Histologic study of the vessels and aneurisms showed that the primary lesion is in the intima, the elastica being primarily at fault as in arteriosclerosis of vessels other than those of the brain. The damaged intima frequently ruptures, and blood forces its way between the coats of the vessel, producing dissecting aneurisms which later, through destruction of the remnants of the vessel wall still surrounding the blood, become converted into false aneurisms bounded by fibrin and altered brain tissue. False aneurisms are also formed by rupture of a vessel after degeneration of media and adventitia has followed the primary degeneration of the intima. In any case, the aneurismal dilatations found on the cerebral vessels are false aneurisms, and not true aneurisms surrounded by one or more layers of the vessel wall; and also the primary vascular lesions are intimal rather than in the media or adventitia as has been contended.

Ellis believes that cerebral hemorrhage does not always come from rupture of aneurisms, for sometimes the sclerosed vessels are found to have ruptured directly without previous dilatation. It is probable, however, that the more usual cause of a spontaneous cerebral hemorrhage is rupture of a false aneurism; and it also seems that the large hemorrhages with great destruction of brain tissue are usually from this cause, since in this way the entire current of blood may suddenly enter the brain substance.

1. The Pathogenesis of Spontaneous Cerebral Hemorrhage, Proceedings of the Philadelphia Path. Soc., 1909.

HEROES, THOUGH THEY DID ONLY THEIR DUTY

From the Illinois coal-fields comes a story of horror and disaster. In the lower levels of the St. Paul mine at Cherry nearly four hundred miners were at work. An alarm of fire was given and they rushed for the shaft, only to find their way to safety barred by a wall of flames. At the smoking pit mouth above, the mine foreman called for volunteers to go down into the burning mine and bring out the survivors. Fourteen men stepped forward, at their head the company's physician, Dr. Lyston D. Howe. Of this brave band, twelve lost their lives trying to save their comrades. Dr. Howe and one miner alone escaped. Let the newspaper correspondent tell the rest of the story:

"Standing out above all the rest is the story of Dr. L. D. Howe, the St. Paul Company's physician, who was the first rescuer to enter the mine. Seven times before the other rescuers began to go down into the burning shaft, this young physician went down alone into the flaming pit and each time he brought to the surface his quota of saved. Twenty-five miners owe their lives to him. To-day his hands are badly burned, but he shows no other scars. When asked this afternoon to describe his experiences, he merely shrugged his broad shoulders and said, 'I could not have done anything else than I did. It is not worth talking about. Besides, I am too busy to talk to-day.'"

The following item appears in this week's letter from our London correspondent: "In the early morning an explosion occurred in the Darran Colliery, South Wales, before the workers on the night shift had left. The ordinary approach to the mine was completely blocked, and the only access was through the shaft of another pit four miles away. A relief party, accompanied by Dr. Turner, the colliery surgeon, descended into the pit and endeavored to reach the other shaft. One after another they were overcome by the choke-damp and five died. The physician had a narrow escape. He repeatedly risked his life in leading the relief party and at last collapsed. His companions endeavored to rescue him, but were so overcome by the choke-damp that they had to abandon him. After a time they were able to return and found him lying in the roadway, still alive. He was carried to a place of safety and oxygen was administered. He was then taken in a comatose state to the Cardiff Infirmary."

All honor to these brave physicians who risked their lives to save others. While they did only their duty, they are heroes none the less. No better example of the true physician could be found than the young mine surgeon who only did his duty and was too busy next day to talk about it.

THE ENZYME TREATMENT OF CANCER

The treatment of cancer by injection of preparations containing pancreatic enzymes, as proposed by Dr. John Beard, of Edinburgh, about four years ago, excited so much interest and comment at the outset that it is hardly necessary to recount its principles or objects. It will be remembered that the treatment was based on an embryologic hypothesis as to the part played by the pancreas in controlling cell growth (a hypothesis which, to say the least, has not been generally accepted by embryologists), and all will recall the sensational manner in which the new treatment was exploited in lay journals. To anyone acquainted with the biology of cancer cells and the properties of enzymes the entire proposition appeared unpromising, but none the less there were not a few practitioners who seemed to see good results accruing from the treatment, and some were carried to extremes of enthusiasm. Taking an unprejudiced view of the situation, however, it seemed possible that the trypsin and amylopsin preparations might have some local effects equivalent to those of mild escharotics, and without their disadvantages, but any specific curative effect, such as was anticipated by Beard, that should lead to "the conquest of cancer" was not to be expected or hoped for.

Four years' experience with the treatment has given opportunity for its real value to be established and for the permanence of the results which at first aroused enthusiasm to be finally decided. More than one hundred articles have been written on the subject, and of three thousand physicians interrogated by the Committee on Scientific Research of the New York Skin and Cancer Hospital, about five hundred reported that they had tried the new method. The originator and advocates of the treatment, therefore, cannot complain of lack of investigation and attention on the part of the profession, and if the unfavorable verdict which has generally been reached is ascribed to lack of experience, care or thoroughness by the users, this criticism cannot well be applied to the report recently published by Dr. W. S. Bainbridge, the secretary of the committee mentioned above.[1] In this report are detailed the results of the treatment of cancer in one hundred cases by the method advocated by Beard, carried out in its full details, with careful study not only of the patients' general condition, but also of the blood, urine, and the tumors themselves. The treatment appears to have been given a most impartial and thorough trial, so that there seems little room to take exception to the conclusion reached, namely, that "the enzyme treatment does not cure cancer." It is found that the local treatment of the ulcerating surface and the general régime advocated by Beard have a favorable influence on the local and general condition of the patient, but there is nothing in the nature of a specific cure of the cancer growth, or even of the prevention of metastasis or recurrence; while at times the injection of trypsin may cause dangerous injury, and often it is unbearably painful. Perhaps the most important positive result is described in the author's retrospect in the following words: "Looking back on the work of the last three years, the most important lesson to be drawn from the enzyme treatment of cancer is that the patient is a human being who, while suffering from cancer, it is true, may at the same time be the subject of any of the other ills to which flesh is heir, and who doubly deserves to be treated with all the careful scientific attention which modern medicine and surgery command. By building up the nutrition, aiding the impaired function of elimination, treating complications, giving the patient a better mental as well as physical atmosphere—in other words, treating the patient and not the 'cancer case'—suffering can be wonderfully ameliorated and life, in many instances, prolonged in comparative comfort for months and even years." But this is a long way from a specific cure—from "the conquest of cancer"—more's the pity.

1. Bainbridge, W. S.: The Enzyme Treatment for Cancer, Scientific Report on Investigations with Reference to the Treatment of Cancer, No. 1. Published with the authority of the Committee on Scientific Research of the New York Skin and Cancer Hospital.

HYDROTHERAPY

While it cannot be said that qualified medical men ignore the therapeutic use of water (unless here and there some isolated individual, like one who a few years ago objected to the practice of bathing as insanitary), it can safely be admitted that most physicians do not habitually employ hydrotherapy in many ways in which it might be beneficial to their patients. Many difficulties stand in the way as regards the mass of the profession. A complete hydrotherapeutic outfit is beyond the reach of the average physician, and the means for using the simple domestic methods are not always available in the homes of the poor. The exploiters of hydrotherapeutic methods in our cities, and even in some of the so-called water-cures, often have not the full confidence of the profession. In some of the best hydrotherapeutic establishments one cannot always be sure that the cure is applied in a thoroughly scientific instead of an empirical, routine way. The associations of special therapeutic institutions are not always the best, and sometimes there is a justified suspicion of quackery in the mind of the physician who might otherwise contemplate sending patients there. There are not many places to which physicians can send a patient and assure him that he will receive the scientific aid that he requires and which he has a right to expect. While some resorts can be conscientiously recommended, they are often beyond the means of a large class of worthy people. Hence the need, especially in cities, of institutions where a physician can prescribe and in a measure oversee the treatment of his patients, feeling sure that nothing will be done for which he cannot himself assume the responsibility. Even in the city of Boston there was not, up to within a very few years, according to Dr. Pratt's article in the present issue, a single place where one could have a therapeutic douche, a scientific wet-sheet rub, or a carbon dioxid bath given by a man or woman familiar with the proper hydrotherapeutic methods. The history given by Dr. Pratt of the foundation, equipment, etc., of the Boston Medical Baths

illustrates what might be done in other cities, where similar institutions could be made of great value, not only for the scientific treatment of persons who cannot for financial or business reasons avail themselves of the well-known establishments in this country and abroad, but also for the educational effect on the public and even on the medical profession. It would afford an opportunity for the individual treatment needed under the direction of the physician who best knows the case and who has the confidence of the patient. There is no conscientious therapeutist who does not wish to give his patients every possible opportunity to use all the means that may benefit them. The application of water in its various forms and in the ways approved by experience is one of these.

THE VALUE OF NASAL EXAMINATION IN THE DIAGNOSIS OF LEPROSY

Several years ago, Sticker advanced the claim that the initial lesion in leprosy is situated on the septum of the nose. Were this the case, the detection of incipient cases of leprosy would become a comparatively easy matter. Impressed with the possible practical value of nasal examination in the diagnosis of leprosy, Brinckerhoff and Moore[1] in Hawaii determined to gather further data in regard to the question of this alleged initial lesion of leprosy. Inasmuch as most of the previous investigators based their conclusions on results obtained from the examination of patients in whom leprosy was relatively advanced and in whom it would be exceedingly difficult if not impossible to determine the primary lesion, Brinckerhoff and Moore examined not only lepers in the early stages for primary lesion on the nasal septum, but especially persons not known to be lepers but among whom it was reasonable to expect that a considerable number of as yet unrecognized instances of the disease would exist. Certain institutions in Hawaii offer exceptionally favorable opportunities for the discovery of cases of leprosy in the earliest stages if the first symptom of the disease actually is an ulcer on the nasal septum. Without discussion of details, suffice it to say that the Hawaiian investigators carefully examined the nasal septum and nasal secretion of 407 suitable persons without finding as many cases of leprosy as expected from the statistical data and on the assumption that this method would be of distinct value in the diagnosis of the disease in its incipiency. Hence they feel decidedly doubtful as to the value of nasal examination for the early diagnosis in all cases of leprosy, and in this conclusion they are supported by the results of their examinations of known cases of leprosy. In four of five cases of incipient leprosy, inspection of the nasal septum and bacteriologic examination of the nasal secretion failed to detect any evidence of leprosy either in the form of actual lesion or in the presence of lepra bacilli in the secretion. In the fifth case they found a single large mononuclear cell containing unmistakable lepra bacilli. On the other hand, in cases of considerable duration they found septal lesions and bacilli in the secretions to be the rule. In one case, in a dispensary patient, in which full history and physical examination could not be secured, a considerable number of lepra bacilli were present in the nasal secretion—an example of the value of routine examination of the nose in detection of dangerous cases of leprosy in a clinic frequented by races with a high incidence of this disease. Brinckerhoff and Moore consequently assign a certain value to nasal examination in the detection of leprosy, even if it does not reveal all cases of the disease, as would be expected if the initial lesion, as once claimed, occurs on the septum of the nose.

1. U. S. Public Health and Marine-Hospital Service, Studies on Leprosy, 1909, No. 4.

Medical News

ILLINOIS

Money for Hospital.—Evanston Hospital has received an anonymous gift of $25,000. The money has been applied to the endowment fund, which now amounts to $86,000.

No Provision for Pay of Experts.—The Illinois Occupational Disease Commission, which had made arrangements for an exhaustive study of the conditions in the factories of Illinois, finds its hands tied because the bill enacted by the state legislature, which provides for an appropriation of $15,000, fails to specify expert and medical aid in its list of the purposes for which the money may be used.

Personal.—Dr. Arthur C. McIntyre and family, Troy Grove, have returned from Europe.——Dr. Edwin J. Gause, Unity, county commissioner-elect of Alexander county, took the oath of office November 5.——Dr. Charles B. Fry, one of the oldest practitioners of Mattoon and local surgeon for many years of the Illinois Central and Big Four railroads, announces that he will give up the active practice of his profession.

Elections.—At the annual meeting of the Southern Illinois Medical Society, held in East St. Louis, November 5, the following officers were elected: President, Dr. Oscar B. Ormsby, Murphysboro; vice-presidents, Drs. Edward W. Fiegenbaum, Edwardsville, and Andrew Hall, Mount Vernon; secretary, Dr. Charles W. Linie, East St. Louis; assistant secretary, Dr. Alonzo B. Capel, Shawneetown, and treasurer, Dr. H. E. Telford, Centralia. The next meeting is to be held in Centralia. ——At the eighty-ninth semi-annual meeting of the Fox River Valley Medical Society, held in Aurora, November 9, Dr. Edward H. Abbott, Elgin, was elected president; Dr. C. H. Evans, Aurora, vice-president, and Dr. William H. Schwingel, Aurora, secretary-treasurer.——The Kewanee Physicians' Club, at its annual meeting, November 4, elected the following officers: President, Dr. Peter J. McDermott; vice-president, Dr. H. Nelson Heflin, and secretary-treasurer, Dr. Gideon H. Hoffman.

Chicago

Physicians Protest.—An ordinance prohibits vehicles from remaining on downtown streets without attendants for more than an hour, in order to avoid more congestion of already crowded streets. The council of the Chicago Medical Society, at its meeting, November 9, protested against the law. The physicians want the right to leave automobiles on the street while they are in their offices.

Out-Door School.—A plea for the establishment of a permanent large outdoor school for tuberculous children is made in the report issued November 11 by the Chicago Tuberculosis Institute. Great good is predicted from the out-door school which is to be held on the roof of the Mary Crane Nursery, Ewing street, by the United Charities, supported by the trustees of the Elizabeth McCormack fund.

Antitoxin.—The Memorial Institute and the Chicago druggists, with the assistance of the Department of Health, have entered into arrangements whereby the retail price of diphtheria antitoxin, after November 15, will be, 1,000 units, 60 cents; 3,000 units, $1.10, and 5,000 units $1.50. The previous prices were, respectively, $2, $5, and $7.50. The department urges those able to pay these reasonable prices to do so and to leave the state supply of free antitoxin for poor people who are unable to pay anything for it.

MARYLAND

Memorials.—In the improvements now being made at the Hospital for the Women of Maryland, Baltimore, there will be memorials to Drs. William T. Howard, H. P. C. Wilson and J. E. Atkinson, all of whom were formerly members of the staff, and the two first, founders of the institution.

Loving-Cup Given.—The surgical staff of the Baltimore Eye, Ear and Throat Charity Hospital recently gave a dinner in honor of Dr. Samuel Theobald, one of the founders of the hospital, and a member of the staff since 1882. A loving-cup was presented Dr. Theobald by Hon. Charles J. Bonaparte of the board of managers.

Personal.—Dr. Charles H. Rose, Cordova, has been elected a member of the house of delegates.——Dr. Joshua W. Hering, Westminster, comptroller of the state, was given the honorary degree of LL.D. on academy day at the University of Maryland, November 11.——Dr. Frederick H. Baetjer has been appointed associate in actinography, Dr. H. C. Thatcher assistant to Professor Thayer, and Dr. J. T. Sample assistant to Professor Barker, in Johns Hopkins Hospital.

Hope to Abolish Cocain Evil.—Baltimore feels that it has provided a really effective weapon in its endeavor to abolish the cocain evil; this has been done by the Swan ordinance, passed by the city council, the legality of which was upheld by the Maryland Court of Appeals, at Annapolis, November 12. It is said that the dealers in cocain have been making 200 per cent. profit. Hitherto these individuals have had an option of paying a fine or imprisonment; hereafter imprisonment is to be required and, further, even to have the drug in one's possession, unless on prescription of a regular physician, is to be evidence of guilt.

MASSACHUSETTS

Physicians' Building in Worcester.—Plans are being prepared for a twelve-story office building in the center of Worcester to cost $500,000 to be devoted to the use of physicians, dentists and druggists.

Personal.—Dr. Florence A. Sullivan has been elected a member of the Haverhill Board of Health.——Dr. Wilder Tileston, Boston, has been appointed assistant professor of medicine in Yale Medical School and has moved to New Haven.——Dr. George B. Sargent has been reelected secretary-treasurer of the Lawrence Medical Club.——At the annual meeting of the Massachusetts Charitable Eye and Ear Infirmary, Boston, Dr. George B. Shattuck was elected president.——Dr. Ephraim Cutter, West Falmouth, writes that he has been appointed delegate to the 1910 convention for the Revision of the U. S. Pharmacopeia. This reminds him that it will be fifty years since he went before.

NEW YORK

New York City

Gift to Lawrence Hospital.—This institution, at Bronxville, was erected by W. V. Lawrence at a cost of $125,000 and opened last June. Mr. Lawrence has now given an additional $150,000, $50,000 of which is for the home for nurses, and $100,000 for an endowment fund for current expenses.

Montefiore Home Will Move.—At the annual meeting of the trustees of this institution it was announced that the home would soon be moved to a more favorable site up town, the present quarters not being large enough. The treasurer's report showed expenditures of $180,000 during the last year and donations of about the same amount.

Hudson-Fulton Accidents.—Reports received by the Public Service Commission on the local transportation service during the crowded period of the Hudson-Fulton celebration show that there were no fatal accidents. It is estimated that the elevated and surface cars carried nearly six millions a day during that time without a single fatal accident.

Gift to College.—William D. Sloane, who has already done much for the College of Physicians and Surgeons, has given $150,000 which is to be used for the erection of a seven-story addition to the Sloane Maternity Hospital. The new building will enable the student to receive practical instruction in all phases of obstetrics and gynecology in the same building.

Personal.—In recognition of the services rendered the Roman Catholic Church by his writings and lectures, Dr. James J. Walsh has had the decoration of St. Gregory conferred on him by Pope Pius X.——Dr. A. S. Dair, while racing, lost control of his motor cycle, and was thrown down an embankment, sustaining severe injuries.——Dr. Carlos F. MacDonald, while returning from New York to his sanitarium at Central Valley, was thrown from his automobile and narrowly escaped death.

House Staff Resigns.—The house staff of the Washington Heights Hospital has resigned on account of Dr. Herman S. Jacobs, house surgeon, refusing to sign a paper certifying that a client of an insurance company had died, unless he, Dr. Jacobs, received the usual fee for his services. The superintendent insisted that the money go to the hospital fund, and Dr. Jacobs refused to sign the blank, and was reported to the chairman of the medical board, who suspended him. Believing Dr. Jacobs to be in the right, the staff, consisting of Dr. Aaron B. Cohen, senior ambulance surgeon, and Dr. David Linetsky, pathologist, decided to resign unless he was taken back. The resignations were accepted, and the staff left the hospital November 7.

OHIO

School in Tuberculosis Sanatorium.—The first school in a tuberculosis sanatorium is said to have been organized at the Franklin County Hospital, Columbus, to look after the mental welfare of ten patients of school age now under the care of the institution.

Staff Resigns.—The mmebers of the medical and surgical staff of the Mahoning Valley Hospital, Youngstown, with one exception, have sent in their resignations. The reason assigned for this is that "there seems to be lack of proper persons to take care of the sick. There are no facilities for taking care of accident or emergency cases."

State Should Supply Antitoxin.—The State Board of Health, at its meeting in Cincinnati, October 13, adopted a resolution that the state supply diphtheria antitoxin free, wherever it is needed. The board also requested the legislature to enact a law providing for the appointment of twelve medical inspectors of contagious diseases, and making medical examination compulsory in city schools, and optional in township and village schools.

Personal.—Dr. William A. Pitzele has been appointed a member of and elected president of the Board of Health of Lorain.——Dr. John S. Cherrington, Logan, has returned from Europe.——Dr. William H. Perry, Van Wert, sailed for Europe, November 17.——Dr. Edgar C. Davis, resident physician at St. Luke's Hospital, Cleveland, was operated on recently for appendicitis.——Dr. Clarence S. Ordway, Toledo, has given a contract for the immediate erection of an eighteen-room hospital on his property on the East Side.

A New Charity.—The Toledo Lying-in and Babies' Dispensary was opened October 26, under the direction of a board of governors, the medical members of which are Drs. Julius H. Jacobson and Park L. Myers. Dr. George B. Booth has been appointed superintendent of the dispensary and placed in charge of the maternity department, and Dr. Herbert E. Smead has been placed in charge of the babies' department. The dispensary is designed to provide nursing for patients in their own homes by visiting nurses, and to provide medical attention, medicine and food to infants and young children.

PENNSYLVANIA

Carnegie Gives Land.—Mr. Andrew Carnegie has given to the State of Pennsylvania 450 acres of land at Cresson for a tuberculosis sanitarium.

Favors Aid to Marine-Hospital Officers.—The Commercial Exchange, through its board of directors, adopted a resolution, November 11, requesting the Pennsylvania delegation in Congress to support proposed legislation in aid of the United States Public Health and Marine-Hospital Service. The measure is intended to provide more adequate remuneration for the officers of that service and for the payment of a salary to officers retired at the age limit or for physical disqualifications.

Philadelphia

Doctors' Charity Chooses Officers.—At the annual meeting of the Aid Association of the Philadelphia County Medical Society, held November 8, the following officers were elected: President, Dr. James B. Walker; vice-president, Dr. Jacob Shellenberger; secretary, Dr. Lewis H. Adler; treasurer, Dr. John B. Turner, and directors, Drs. Roland G. Curtin, Samuel W. Morton and Alexander R. Craig. The association was formed to give aid to the needy members of the county medical society and their families and other physicians in extraordinary cases. Its work is purely benevolent and the names of the beneficiaries are not known to the other physicians.

Personal.—Dr. S. Weir Mitchell has been elected president of the St. Andrew Society of Philadelphia.——Dr. I. Newton Snively, who underwent operation for abdominal abscess, November 9, is improving.——Dr. William T. Pride, Jr., has been appointed professor of pathology in the College of Physicians and Surgeons, Memphis, Tenn.——Dr. Albert G. B. Hinkle is recovering from a long and serious illness.——Dr. James K. Young was appointed associate professor of orthopedic surgery in the University of Pennsylvania faculty, November 9.——Dr. Walter L. Pyle gave a reception, November 13, to many of the physicians of the country, who had come to attend the dedication exercises of the new building of the College of Physicians and Surgeons.

Dedication of the New Hall of the College of Physicians of Philadelphia

The new home of the College of Physicians of Philadelphia was dedicated with fitting ceremonies, November 10 and 11. This society, organized January 2, 1787, is the oldest medical organization (not a state society) in the United States.

The society is a scientific and not a teaching body. Until recently the number of its fellows has been very small. It has never aimed to include the rank and file of the profession, but has had a selected fellowship, which even now numbers only 439 fellows, 40 associate fellows, of whom 11 are from Great Britain, and 4 corresponding members.

LARGE MEDICAL LIBRARY

The library of the college, with the exception of the Surgeon-General's Library at Washington, is stated to be the largest medical library in the world. It contains, excluding duplicates, almost one hundred thousand volumes. For the last few years it has increased at the rate of more than two thousand new volumes a year. The college contains some very rare material. It possesses one of the six copies of the first edition of Harvey's "De Motu Cordis et Sanguinis" to be found in the United States and has also the still rarer final leaf containing the errata. Among the many curiosities are a lock of Jenner's hair, Laennec's stethoscope, a set of Perkin's "tractors" and the knocker from the door of Ephraim McDowell. The college also contains the museum of the late Thomas D. Mutter, which was presented to the institution in 1856. This covers a floor space of 3,500 square feet and is provided with several galleries. This museum has an endowment of $30,000 to provide for its care and increase, and for the annual "Mutter Lecture."

THE NEW BUILDING

The new building, with furniture and fixtures, has been erected at a cost of $400,000, of which $100,000 was presented by Mr. Andrew Carnegie. The structure is a modern two-story fire-proof building of steel construction, with brick walls and limestone trimmings. It is 108 by 150 feet, situated on a lot 130 by 184 feet and is surrounded by three streets, thus assuring light and protection from fire on all four sides. The first floor contains the executive offices and is provided with two large lecture rooms with a capacity for one hundred persons, known as the Thomas Cadwalader Room and William Thompson Room.

The second floor contains a large auditorium capable of seating 500 persons. This room was furnished by the friends of Dr. S. Weir Mitchell and is known as Mitchell Hall. Several other memorial rooms are provided, and all, except one, have been named after deceased fellows. Special provision is made for fellows who are engaged in prolonged research work by a dozen small private rooms, in which they may study, and on leaving the room lock the door. This is a saving of time and trouble both to the student and library officials, and has the advantage of freedom from all interruption.

LIBRARY AND READING ROOM

The windows of the library are provided with wire glass in metal frames and there is further protection from fire by rolling steel fire shutters, which drop automatically at a certain temperature. The library is also cut off from the rest of the building by fire doors. Space in the library has been provided for 300,000 volumes and ample provision has been made for large future extension whenever necessary. A large reading room is provided, which will accommodate fifty readers, and the journal room, opposite, contains accommodation for fifty additional readers. There are 850 medical journals on file in this room. Six shelves without partitions run around the entire room, three of which are horizontal. Above each horizontal shelf there is another shelf inclined about forty-five degrees. On the inclined shelf the latest number of each journal is placed, while immediately below it, on the horizontal shelf, are all loose preceding numbers of the same journal, awaiting binding as soon as the volume is completed. The library is open to all the non-medical public as well as to the entire medical public of whatever school.

ACADEMICAL PROCESSION

The fellows and guests assembled and proceeded to the entrance to the new building, where the presentation was made by Dr. William J. Taylor, secretary of the building committee. The hall was accepted on behalf of the president and officers and in the name of the fellows of the College of Physicians of Philadelphia by the vice-president, Dr. George E. de Schweinitz.

THE GUESTS

Dr. James Tyson, president, introduced the visiting guests, who spoke, in part, as follows:

JOHN SHAW BILLINGS, M.D., representing the New York Public Library:—"I offer congratulations, not only of the New York Public Library, but those of other large public libraries, on your success in obtaining and properly housing this collection of books which is perhaps the most complete in the world. It has an added value in that it contains the books of Dr. John Stockton Hough. I speak also as a delegate of the Carnegie Institute of Washington and present congratulations from that body."

CHARLES LOOMIS DANA, M.D., representing the Academy of Medicine of New York:—"In bringing the message of fraternal greetings and congratulations on your present great feat, I speak not alone as a representative of a kindred institution, but with a note of real personal feeling, for I have experienced the hospitality of this college and know its worth and work. The New York Academy of Medicine is the junior of this college by sixty years. It owes its existence to the widows and orphans of medical men and shows how the poor and humble may be an inspiration to mighty things. Through it New York first organized a board of health and the academy has since its beginning aided nearly every measure for public health and medical science. In six decades our membership has grown from 184 to over a thousand and a waiting list exists."

REGINALD HEBER FITZ, M.D., spoke for the Boston Medical Library:—"The College of Physicians of Philadelphia and the Boston Medical Library meet on common ground in their effort to take their place among those seeking nothing for themselves but all for the race."

WILLIAM SYDNEY THAYER, M.D., representing the Medico-Chirurgical Faculty of Maryland:—"I present congratulations, not perhaps of a sister society, but of a child, for a large number of our founders gained inspiration from members of this venerable institution, and we in Maryland have ever sought refreshment from the quickening current which has flowed from the lips of your students, philosophers and poets. May this institution ever serve to broaden the horizon of the physician, to stimulate justice, liberality, tolerance, and bring him nearer to his fellow man, giving to the world the highest usefulness, counsel, and advice."

FREDERICK P. HENRY, M.D., honorary librarian, Library of the College of Physicians of Philadelphia:—"Our library is in the front rank of the medical libraries of the world and second to none as a working library. I would call particular attention to the numerous small rooms for special research in which the student may have absolute privacy. The books are a collection of animate objects which have not only stimulated but compelled progress. They forced us out of our home in the Mercantile Library in 1854 and again they forced us out of the old picture house in the Pennsylvania Hospital grounds in 1863, and finally they drove us, with metaphorical whips and scourges, out of our last home and forced us like a swarm of bees into this hive of learning. Like a swarm of bees also there was needed a metallic sound to make us settle and gold has been literally poured out at our feet. The bookstacks have space for 300,000 books with ample room for extension, so that the youngest member need not anticipate the expense of another removal during his life time. I cannot offer you what you already possess, the freedom of this great library, but I can congratulate you and ourselves on the fact that it is contained in the finest building of its kind in either hemisphere and that the jewel is worthy of its casket."

CONFERRING OF ASSOCIATE FELLOWSHIPS

ARCHIBALD BYRON MACALLUM, M.A., M.B., Ph.D., Sc.D., LL.D., F.R.S., was presented by Albert Philson Brubaker, M.D., who said in part that for his services to the cause of higher education and for the supreme worth of his personal character Dr. Macallum had been honored in large measure by universities and scientific associations at home and abroad, for which reasons the fellows of the College of Physicians desired to express their appreciation by conferring on Professor Macallum the title of associate fellow.

To the presentation Dr. Tyson responded and in like manner to the subsequent presentations: "Selected from among those eminent scientists of the country by unanimous vote of the council, confirmed by a like vote of the college, you have been made an associate fellow of the College of Physicians of Philadelphia, in evidence of which I present to you the certificate of the college, signed by the president, vice president, the secretary and treasurer and the censors of the college."

OLIVER FAIRFIELD WADSWORTH, M.D., was presented by George E. de Schweinitz, M.D., as "A pioneer in the early

medical work of the country; a teacher who has sent forth students fully equipped; a clinician distinguished for accuracy and keenness of observation, an ophthalmologist, physician and surgeon who has upheld the standard of the profession."

EDWARD GAMALIEL JANEWAY, M.D., LL.D., was presented by James C. Wilson, M.D., as a "master clinician, distinguished writer, comprehensive teacher, wise consultant, and courteous gentleman."

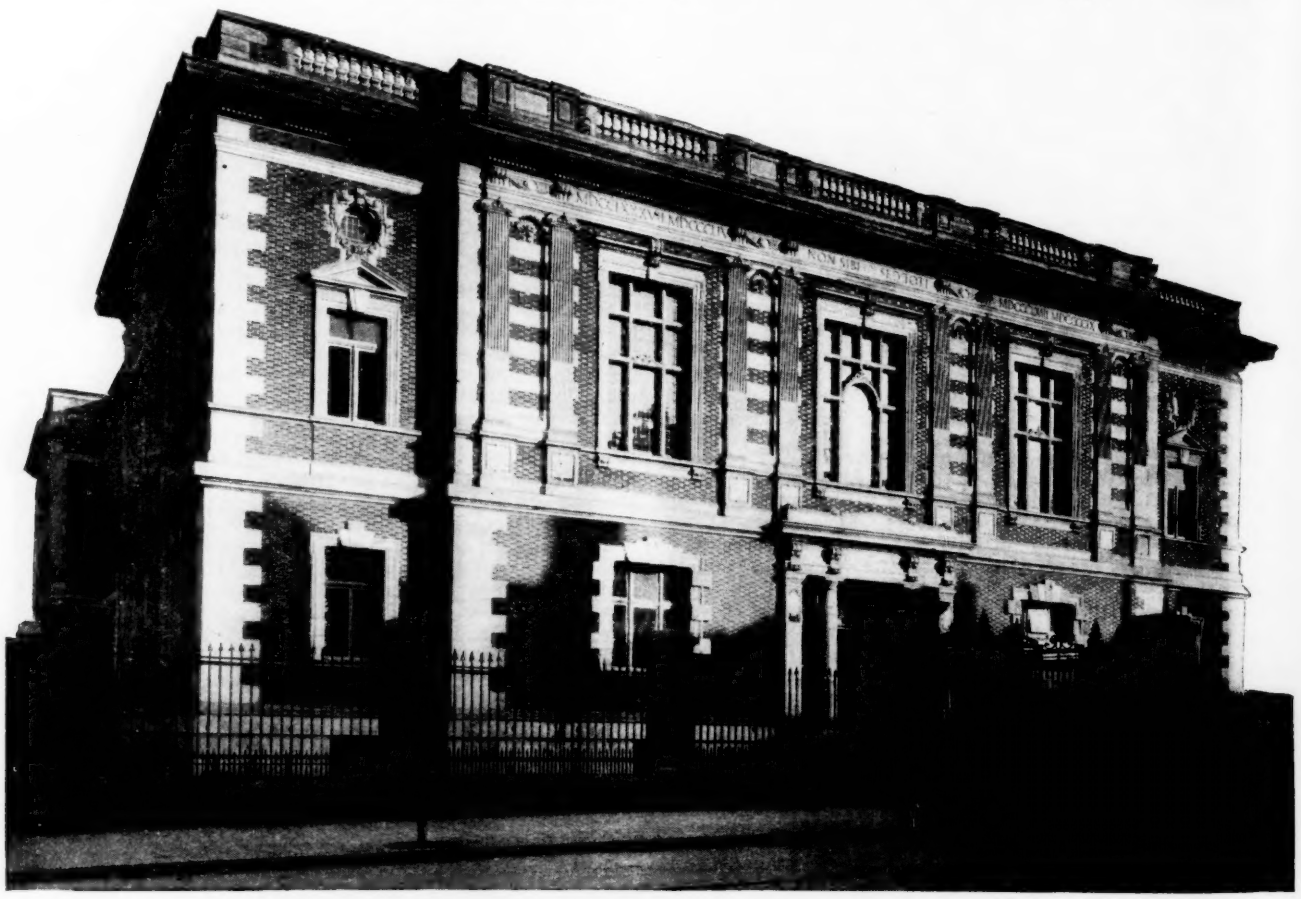
CHARLES LOOMIS DANA, M.D., was presented by Charles K. Mills, M.D.:—"When the College of Physicians of Philadelphia selects for a special honor we are assured that the choice is determined by exceptional merit. Such merit is possessed by the candidate whom I have the honor to present. Born among the rugged hills of New England, he has by a life of ever-increasing distinction made faithful return for his inheritance of capacity. His success in neurology, his chosen department of medicine, was assured from the outset. He is the author of one of the best text-books on neurology and psychiatry ever issued from an American press."

FRANK BILLINGS, M.D., was presented by John H. Musser, M.D., who said in part:—"Beloved physician of patriotic vision, skilful in interpretation, masterful in treatment, scientist, wise and earnest seeker of truth, you have emblazoned the path of many young men who, inspired by your conceptions, have been earnest workers in medical science. As president of the State Board of Charities of Illinois you have shattered the political bonds of the various institutions under your care and have brought to the inmates of the institutions careful management and scientific treatment. Recognizing the commanding features of your career the fellows of the College of Physicians have by one voice asked that you be presented to the president and receive the certificate of associate fellowship, knowing full well that you will honor it far more than it can ever honor you."

GEORGE WASHINGTON CRILE, M.D., was presented by Dr. William L. Rodman:—"The candidate whom I present has placed new paths in surgery and has compelled a gratified profession to acknowledge him as a leader. Perhaps his most noteworthy publication was on hemorrhage and transfusion. Busy as he must have been in the preparation of such a monograph he has found time to devise new surgical operative instruments and to contribute largely to current medical literature."

FRANKLIN PAINE MALL, M.D., was presented by George A. Piersol, M.D.:—"In bringing about the larger recognition of anatomy in surgery Dr. Mall has rendered conspicuous service. During his career as educator he has striven to arouse a love for research, and largely through his efforts this country now possesses two journals of acknowledged merit devoted exclusively to anatomy."

Cablegram congratulations were received from the Royal College of Surgeons of Edinburgh, the College of Surgeons of England, and from William Osler. A set of resolutions came from the Boston Medical Library and letters from two fellows, Drs. J. Cheston Morris and Horatio C. Wood, and from the representative of the library of the Surgeon-General's office, U. S. Army, Dr. Robert Fletcher, who were unable to be present.



THE NEW BUILDING OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

DEDICATORY ADDRESS

The president, JAMES TYSON, M.D., delivered the dedicatory address:—"Of the three occupations of men which are dignified by the title of profession—namely, the ministry, the law, and medicine, that of medicine has been especially characterized by a desire on the part of its members to unite for mutual improvement. The first effort toward organized medical societies in the English colonies of North America appears to have been in Boston in 1735. The College of Physicians was organized in 1787 and while the third of the medical societies organized in Philadelphia was the tenth of American societies, so far as can be learned it is the oldest in existence of American societies which is not a state organization. As early as 1767 Dr. John Morgan began to agitate the subject of a College of Physicians, but was rather severely sat on by one of the proprietors, Thomas Penn. As a result the charter was refused and the project abandoned for the time being. On Jan. 2, 1787, however, the first meeting after its full organization was held. Dr. John Redman was the first president and held office for eighteen years. The vice-president was Dr. John Jones, great grandson of Dr. Thomas Wynne, who came over with Penn in the ship *Welcome*. The constitution provided that the officers should be chosen annually, and this

practice continues to the present day. The first paper read before the college was by Dr. Rush at the second meeting, Feb. 8, 1787, on 'The Means of Promoting Medical Knowledge.' The college early assumed a guardianship over the health, safety, and even morals of the community.

"The circumstance which made the first decade in the life of the college the most stirring and interesting in its history was the presence of yellow fever. On Aug. 25, 1793, a special meeting was held 'to consider what steps the college should take consistently with duty to their fellow citizens in connection with the prevalence of a fever of very alarming nature in some parts of the city.' Directions for preventing the further progress of the fever with comments on the inefficiency if not the danger of fires kindled as a means of checking the progress of the fever and placing more dependence on the burning of gunpowder were promptly sent to the citizens.

"It was further stated that 'the benefits of vinegar and camphire are confined chiefly to infected rooms, and they cannot be used too frequently on handkerchiefs or in smelling bottles by persons whose duty calls on them to visit or attend the sick.' On Nov. 26, 1793, in answer to the inquiry from Governor Mifflin to President Redman whether or not yellow fever was an imported disease a reply was adopted to the effect that the fever was imported in vessels about the middle of July. Cleanliness of the streets, the use of gunpowder as a disinfectant, and of slacked lime in privy wells was recommended. In 1798 when the fever again broke out as a result of a special meeting of the college a committee was appointed to wait on the Board of Health to recommend the removal of all families between Walnut and Spruce Streets and the east side of Front and the river; also to remove the shipping between Walnut and Spruce Streets to a proper distance. The fever prevailed with intermissions and remissions from 1793 to 1798. Two founders of the college died of it and many more physicians were very ill. At one time only three were able to do duty outside their own houses.

"In 1798 was organized the American Academy of Medicine of Philadelphia. It is said to have been organized with a view to the study of yellow fever, but it was also in evident opposition to the College of Physicians.

"The college in its infancy and for some time afterward was very poor. In February, 1883, Dr. S. Weir Mitchell presented $5,000, subsequently increased to $7,000, to establish an entertainment fund. This generous gift and its purpose was followed by the appointment of an entertainment committee which has been called upon to exercise its function on several occasions. The most important event in the history of the college after its organization was the Centennial Anniversary, celebrated Jan. 3 and 4, 1887. On January 2 the actual anniversary, the day was bitterly cold and is especially associated in my mind with the presence of Dr. R. Palmer Howard, then professor of medicine in McGill College, Montreal, who was my guest and whom I took in the afternoon to old St. Peter's church on Pine Street, where lies buried John Morgan, one of the most brilliant and accomplished founders of the college.

"The occasion of the centennial also marked the completion of the then new college hall at Thirteenth and Locust Streets by the addition of the third story at a total cost of $67,256.50, including the site, which cost $14,408. Yet the total investment is insignificant as compared with what has been expended for this, our latest home, appointed as no building for a like purpose ever was. One of the most important functions of the college is the stand it has taken against encroachment on the right to use, humanely, animals for investigating the action of medicines and determining the causes, prevention, and cure of disease. The subject of quarantine has at all times received interested attention. The college has always been ready to render, to the extent of its ability, aid to members of the profession who have suffered in public calamity. In February, 1891, a committee was appointed to represent the college before the legislature in advocacy of a bill to establish a state board of medical examiners and licensers, and in opposing a bill providing a state board of medical education. The bill establishing the State Board of Medical Examiners was passed and has been of great service in advancing the standard of medical education.

"Of the library I may state that the total number of bound volumes up to Nov. 1, 1909, is 81,018; general library, 63,890; Lewis library, 13,536; S. D. Gross library, 3,375; Obstetrical Society library, 217. There are also unbound reprints and transactions, 8,202; unbound theses and dissertations, 23,711, and unbound pamphlets, 70,213. Between 2,000 and 3,000 volumes are purchased annually and many are donated by authors, publishers and friends."

THE BANQUET AND THE RECEPTION

On the evening of the dedicatory exercises a banquet was held in the Bellevue-Stratford Hotel. Nearly 500 persons were present. Dr. George E. deSchweinitz was toastmaster and the following toasts were responded to: "The Old College and the New," Dr. S. Weir Mitchell; "Libraries and Their Foundations," Mr. Andrew Carnegie; "The College Library and Its Treasures," Dr. William W. Keen; "The College and Its Civic Relations," Hon. Hampton L. Carson; "The College and Its Traditions," Dr. Arthur V. Meigs.

On November 11 the new building was thrown open to the inspection of the public and in the evening a reception was attended by over 500 persons. Preceding the reception the guests and visitors gathered in the assembly hall and were addressed by Dr. S. Weir Mitchell. Dr. James Tyson, president of the college, presided.

GENERAL NEWS AND COMMENT

Individual Drinking Cups.—The Norfolk and Western Railway has installed in each of its coaches slot devices from which individual drinking cups may be secured by passengers.

Prize for Aid for Deafness.—Professor Cozzolino of Naples, Italy, was the official delegate from Italy to the International Congress for Otology at Budapest, and he has since founded a $200 prize to be awarded at the next international congress, to be held at Boston in 1912, for the best work on the treatment of progressive deafness or a mechanical device for relieving it.

Personal.—By order of the Secretary of the Navy, November 11, the controversy as to whether line officers or medical officers shall command a hospital ship was decided when Surgeon George Pickrell, U. S. Navy, was detailed to command the hospital ship, *Solace*.——Dr. Varone Suarez, Havana, has been appointed secretary of sanitation of Havana, Cuba, vice Dr. Mathias Duque, resigned.

Prize for Work on Typhus Fever.—The Mexican government has authorized the National Medical Academy to announce a typhus prize fund of $25,000 (50,000 pesos): $10,000 will be awarded to the discoverer of the cause of exanthematous typhus, and $10,000 for the discovery of its mode of transmission or a curative serum, and $5,000 to the investigator whose work is judged most useful in helping toward such a discovery. The competition is international but all articles must be in Spanish and be in the hands of the secretary of the Academia N. de Medicina, Mexico, before Feb. 28, 1911.

Hookworm Commission.—Mr. John D. Rockefeller, who has given $1,000,000 to investigate and combat the hookworm disease, has selected the following commission to have charge of the administration of the fund: Drs. William H. Welch, Baltimore, Simon Flexner, New York City, and Charles Wardell Stiles, U. S. P. H. and M.-H. Service; President Edwin A. Alderman of the University of Virginia; Chancellor David F. Houston of Washington University, St. Louis; P. P. Claxton, professor of education in the University of Tennessee; J. Y. Joiner, state superintendent of education of North Carolina; Walter H. Page, editor of the *World's Work*; Principal H. B. Frissell of Hampton (Va.) Institute, Frederick T. Gates, Starr J. Murphy, and John D. Rockefeller, Jr.

Lombroso's Brain.—According to the wishes of the late Professor Lombroso, his autopsy was held in the amphitheater of the medical school at Turin. A number of professors and students were present. Evidences of interstitial myocarditis and atheromasia of the coronary arteries were found but the arteries in the brain were in good condition. Also in compliance with the wishes of the deceased, the brain was removed from the skull and given to Professor Boero to be preserved in the Institute of Normal Anatomy. It weighed 1,308 grams. Lombroso had written a romance and poems by the age of 10, the next year two tragedies modeled on Alfieri's, and had published two monographs on Roman archeology before he was 12. A year or two later he took up sociologic studies based on linguistic analysis of the Greek, Hebrew, Sanskrit, Coptic and Chinese, and before he entered the university had written two works on natural science.

New Medical Association.—The American Association for the Study and Prevention of Infant Mortality was organized at New Haven, November 13, as the result of the convention of the American Academy of Medicine for the discussion of that topic. The following officers were elected: President, Dr. J. H. Mason Knox, Jr., Baltimore; vice-presidents, Prof. C. E. A. Winslow, biologist-in-chief of the laboratory of sanitary research, Massachusetts Institute of Technology, Boston, and Homer Folks, secretary of the New York State Charities Aid Association, and secretary, Dr. Henry I. Bowditch, Boston.

CANADA

Civic Medical Officer.—The active attention of the executive committee of the New Brunswick Medical Association is at present engaged on the question of the appointment of a civic medical officer or civic health officer, whose duties are to include the examination of public school children and the care of the health of the children. At the last meeting of the executive committee a resolution to this effect was adopted.

Offenders Sentenced.—Mrs. Susan Labertis, a colored woman of Woodstock, charged with breach of the medical act, in that she practiced medicine without a license, was found guilty in the Toronto police court, September 7, and fined $50 and costs. ——Charles Williams, christian scientist of Virden, Man., is said to have been sentenced to serve two years in prison for failing to call in medical aid while treating for pneumonia a child who subsequently died.

Medical College Opens.—The opening lecture of the annual session of the medical faculty of McGill University was given by Professor Wolbach, October 1. Principal Peterson, who presided, reported the generous gift of Lord Strathcona, which has made possible the new medical building of the University. It was announced that arrangements have been made with the authorities of Montreal General Hospital to maintain an additional clinic for the benefit of English-speaking students.

Personal.—Dr. Frederick J. T. Old, Port Colburne, has been elected president, and Dr. Ernest L. Garner, Welland, secretary-treasurer of the Welland County Medical Association. ——Dr. John J. McFadden, Neepawa, Man., has been elected medical superintendent of the Brandon Hospital for the Insane, vice Dr. James J. Anderson.——Dr. George Bayham, Winnipeg, has returned after ten months abroad.——Dr. and Mrs. Henry Meek, London, have returned from Europe.—— The Manitoba Medical College has appointed Dr. E. J. Evatt to take charge of the department of anatomy.——A complimentary dinner in honor of Dr. Leonard G. Rowntree, Baltimore, was given at the Tecumseh House, London, by the Faculty of the Medical School and the executive of the alumni association.——Dr. Archibald R. B. Williamson has been appointed medical health officer of Kingston, Ont., vice Dr. John H. Bell.——Dr. John W. Wigham, Toronto, has been appointed associate coroner for that city, and Dr. Hugh C. McLean, Guelph, associate coroner for Wellington county.

Annual Meeting of Medical Council.—On October 13 and 14, the annual meeting of the Council of the College of Physicians and Surgeons of Manitoba was held, and the following officers elected: President, Dr. Thomas M. Milroy, Winnipeg; vice-presidents, Dr. John J. McFadden, Neepawa; registrar, Dr. John S. Gray, Winnipeg (reelected); treasurer, Dr. James Patterson, Winnipeg (reelected); representatives on the council of the University of Manitoba, Drs. Charles W. Clark, Thomas M. Milroy, Arthur W. Moody, and James N. Hutchison, and representative of the college on the Board of Studies of the University, Dr. Thomas M. Milroy. At a meeting of the council, held later, it was decided to raise the registration fee from $75 to $125, to take effect Jan. 1, 1910, and to abolish the annual fee of $2.——The Manitoba College of Physicians and Surgeons has offered to hand over to the University of Manitoba, without reservation, the new medical college, site and equipment, valued at $100,000, provided the university is freed from denominational control and is absolutely placed under the control of the state.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 5, 1909.

Outbreak of Scarlet Fever and Diphtheria

London is at present suffering from a serious outbreak of scarlet fever and diphtheria, the number of cases considerably exceeding the usual autumnal rise in these diseases. Patients are being removed from their homes to the fever hospitals at the rate of 600 a week and the number of cases admitted amount to 3,805.

Hindus Demand that Appointments Be Thrown Open to Them

The civil medical administration of the teeming millions of our vast dependency of India is controlled by the officers of the Indian medical service, who are all Europeans. The government has established a number of medical colleges for the training of natives in western medicine under professors appointed from the Indian medical service. When these natives become qualified they form what is called the subordinate medical service. They are eligible for civil and military practice but not for the higher appointments. In the Indian army (which consists of natives officered by Europeans) they can attain no higher rank than that of captain. As the number of European physicians in India is small compared to the population the native physicians are now numerous and they fill a large number of government appointments in the hospitals, on plague duty, in the jails and in the sanitary administration generally. They form the great majority of the private practitioners; excepting the medical missionaries, there are scarcely any European physicians outside the army in the country. As stated in a previous letter to THE JOURNAL, Lord Morley, the secretary for India, has come to the conclusion that the demands on the medical service of the Indian army by civil practice are too great, that they must be restricted in the future and that civil appointments shall be made so far as possible in the future of private practitioners. The members of "the independent medical profession," i. e., the native physicians, have taken the opportunity of pressing their claims. They have held a meeting at Bombay and unanimously adopted a memorial asking that all civil medical appointments under the government shall be thrown open to natives and the present monopoly of the higher posts by the Indian medical service be abolished. They recommend that the Indian medical service shall be purely military. They also desire that multiple professorships at the medical colleges shall be abolished and that professors should not be allowed also to hold appointments on the staffs of hospitals. They anticipate that if their recommendations are adopted a saving of $1,000,000 annually to the state will result. As there are now many highly competent and well trained native physicians in India it does not seem that the reasonable request that they shall be allowed to compete for medical appointments in their own country can be refused.

A Physician's Heroism

In the early morning an explosion occurred in the Darran colliery, South Wales, before the workers on the night shift had left. The ordinary approach to the mine was completely blocked and the only way of access was by the shaft of another pit four miles away. A relief party, accompanied by Dr. Turner, the colliery surgeon, descended the pit and endeavored to reach the other pit. One after another they were overcome by the choke-damp and five died. The physician had a narrow escape. He repeatedly risked his life in heading the relief party and at last collapsed. His companions endeavored to rescue him but were so overcome by the choke-damp that they had to abandon him. After a time they were able to return and found him lying in the roadway still alive. He was carried to a place of safety and oxygen was administered. He was then taken in a comatose state to the Cardiff Infirmary. Twenty-nine lives were lost from the explosion.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Oct. 28, 1909.

The Affair of the Ophthalmologic Clinic

The difficulties in finding a first-class ophthalmic surgeon willing to accept the appointment as successor to Schnabel are ever increasing. At first there was an apparent tendency on the part of the government to neglect the recommendation of Professor Hess of Würzburg by the medical faculty, then Hess refused to accept the office, without very substantial changes and adaptations, which required money. The government not complying with his wishes he declined the honor. Then Professor Dimmer of Graz, recommended in the second place, was offered the clinic. He made conditions nearly identical with those of Hess: enlargement of the clinic, reform of the present insufficient laboratories and teaching accommodations, and modern outfit. This was refused, whereupon he too declined. The splendid new general hospital, parts of which have been opened already, provides a real palace for an ophthalmic clinic, but this will not be erected before 1914. Thus, five years would have to be spent in the old building. Anyone who knows the present building will easily understand the attitude of the two surgeons. The students are now in danger of not enjoying the teaching of a first-class ordinary professor, although the surgeon in charge of the clinic at present is also a very good man. On the other hand, the standing of the Vienna medical school must be seriously hampered by such conditions.

Honors to a Dead and to a Living Teacher

In memory of the late Professor Albert, a surgeon whose name is well known beyond the frontiers of Austria, a relief tablet was unveiled in the hall of the university a short time

ago. The tablet shows the surgeon at the side of a young woman anesthetized, explaining to his students the operation he is performing. It is a fine piece of art; the likeness is very striking to all those who had the privilege of knowing the surgeon. Albert was professor of surgery in Vienna from 1881 till 1900; he was a keen observer, a strict logical thinker, and one of the most successful teachers known in medicine. His methods of teaching were actually the sole reason that the Vienna school retained for many years the standing gained for it by Billroth. At the foot of the tablet a wreath has been placed by the surgical clinic, bearing the inscription: "Magno medico, maximo magistro, grata animo."

A few days later, a living physician, Professor Leopold Oser, celebrated his seventieth birthday among a number of his devoted friends and scholars. He is one of the pioneers in the study of the the gastro-intestinal tract; the chief methods of investigation of the pathology of the stomach are due to his clear mind. He was also one of the initiators of the Vienna Poliklinik, which has developed since to such importance as an annex to the general hospital as regards teaching. A very valuable contribution by Professor Oser to the pathology of cholera was and is still regarded as one of the best treatises on this subject. Among the numerous honors received by Oser was also a splendid address from the Vienna Medical Society (*Gesellschaft der Aerzte*), of which he was one of the presidents.

The Institute for Teaching of Physics

A similar incident is now attracting attention toward the unsatisfactory conditions in certain branches of our university institutes. Every medical student here must study physical science for at least one year at the physical institute. This is over sixty years old and was inadequate twenty-five years ago. It is an old, unhealthy, cold building with poor acoustic properties, capable of holding, in the laboratories and lecture hall, altogether about 100 students. Four hundred students have taken up these studies just now, and when the new professor, Dr. Lecher, a renowned investigator and teacher, began his lectures a few days ago, the impossibility of admitting all or even half the students caused an outburst of indignation from them. To force the government to a radical reform a strike was organized; the professor, who naturally sympathizes with his students, was asked to stop all his classes until all those who had a right to hear his lectures were able to do so. So the shameful condition now exists that students are debarred from learning because some very economical official does not care to have the ordinary slow course of red-tapeism disturbed. The daily press has aroused public opinion and now things will become very lively unless a definite step forward is soon made.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Oct. 27, 1909.

The City Government and the Medical Profession

The mayor (*Magistrat*) of Berlin has again given the medical profession occasion for serious complaint. As I have previously told you examination bureaus were established about a year ago by the state and by the city (and suburbs) in which hygienic examinations were made free of charge. While all the other stations undertake examination of tuberculous material without fee, the city government of Berlin has refused to permit such examination by the municipal laboratory. The alleged reason for this determination is that there is no call for such examinations by the city laboratory since the well-to-do people can get the work done by their private physicians or in private laboratories and the tuberculosis dispensaries are ready to perform similar service for the patients of the krankenkassen and the poor. The city council did not concur in this decree of the administration, and requested the mayor to permit free examination of tuberculous material, but no change was made. A few days ago Privy Councillor Proskauer, of the Institute of Infectious Diseases, on account of unpleasant experiences, sent a new request to the mayor for permission to make free examinations for tuberculous patients. His request was refused and a new regulation announced which provides that half the fee of six cents (0.25 marks) must be advanced by every physician who sends a specimen of sputum for examination. The examination is made dependent on the payment of this sum. If this advance payment is not made within three days, the material for examination shall be destroyed. This senseless order, so contrary to the purpose of an examining laboratory, will be understood if one reflects that the president of the board in charge of this branch of the city government is a physician 71 years of age, who for a long time has been unfit to supervise the important work of his office, to say nothing of carrying it on. Although the medical profession in society meetings and in the press has repeatedly proposed that the organization of the personnel of the municipal health office be improved and especially that this unfit representative of the municipal administration should retire, the municipal authorities have so far continued the inadequate arrangements. It is to be hoped that the storm of protest which has been raised among physicians and in the press by this latest order will have the effect of securing finally an organization of sanitary matters suitable to the capital of the German empire.

Care of Patients With Advanced Pulmonary and Laryngeal Tuberculosis.

The imperial chancellor in a circular letter directed to the various federal governments recommended for consideration certain principles which have been laid down by the imperial health office regarding the establishment of institutions for the care of sufferers from advanced pulmonary and laryngeal tuberculosis. These propositions are as follows:

In addition to the regulations which have the purpose of making the germs from tuberculous patients harmless the attempt should be made to isolate patients with open pulmonary or laryngeal tuberculosis unless they are already in sanatoria. For this purpose it is recommended:

1. As many of this class as possible should be retained for the longest possible time in the general hospitals. In these institutions the consumptives should be separated from other patients in special rooms or, if it is feasible, in wards in separate buildings which should be constructed on the plans approved for sanatoria, with open porches, etc. Provision for such arrangements should be made in all general hospitals in process of construction.

2. Where a need exists, as in large cities on account of the overcrowding of the general hospitals, tuberculosis hospitals should be erected in the neighborhood of the city in some healthful, wooded locality.

3. In the tuberculosis hospitals or in the tuberculosis departments of the general hospitals the cure of the patients should be made a prominent aim in addition to the isolation. The construction of institutions which shall serve for the reception of unimprovable tuberculous invalids in the last stages (*Pflegeheime, Invalidenasyle*) is not at present recommended.

4. Measures should be provided by which indigent families of consumptives who have been received into the hospitals for the longest possible stay shall be assisted in a financial way during this period. Those numerous consumptives who, partly on account of still persisting ability to work and partly from other reasons, will not enter the hospitals should be placed under conditions that will, as far as possible, limit the liability of infection of their environment. This task devolves on the institutions charged with the care of such patients, more particularly the tuberculosis dispensaries (*Fürsorgestellen*) which, in addition to the utmost practicable isolation of patients in their homes, should take care for the betterment of dwellings and the education of the patients and their environment in hygienic principles. In the fulfilment of this task they need the abundant support of the municipal authorities and communities.

5. Provision should be made for a sufficient number of laboratories in which gratuitous examination of sputum shall be made.

6. The managing boards of all institutions serving for the reception of consumptives, including popular sanatoria and tuberculosis dispensaries should be constantly in touch with each other in order to establish uniform rules by which the entrance and discharge of patients from time to time shall be governed.

Cholera in Prussia

In the last few days a few cases of cholera have been discovered in East Prussia, all of which, however, are to be attributed to introduction from Russia and therefore give no occasion for alarm.

Contemplated Increase in the Price of Medicines

The demand of the pharmacists for an increase in their charges for medicines on account of the general increase in the cost of living is likely to be granted by the ministry. In this way, however, the increase of expense indeed never comes to an end for the increase of one item involves an increase in others. If the price of medicines and medical services is raised, the butcher and the grocer naturally demand more for their wares and if the butchers receive more money, the doctors and the pharmacists will naturally charge more for their services. It is thus a vicious circle.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 29, 1909.

Lectures on Educational Hygiene

The French League for Educational Hygiene (*Ligue française pour l'hygiène scolaire*), the purpose and workings of which I have already described (THE JOURNAL, Sept. 29, 1908, li, 1094), has organized under the auspices of the School of Higher Social Studies (*Ecole des hautes études sociales*), during the winter semester of 1909-1910, a series of lectures on educational hygiene. The lectures and subjects are as follows: Professor Calmette, director of the Pasteur Institute of Lille, "Hygiene in Education"; Dr. Gallois, "Organized Cooperation of Parents and Teachers to Improve the Physical, Intellectual and Moral Hygiene of the Schools"; Dr. de Pradel, "Cooperation Between Physicians and Teachers"; Dr. Pierre Regnier, "Reduction of the Number of Hours for Study in Order to Give Time for Physical Education"; Dr. Cayla, "Educational Walks and Tours." Besides these lectures given by physicians, a certain number will be given by the members of the teaching profession on the subject of open-air schools, rural and family boarding-schools, vacation colonies, open-air games in city schools and the teaching of manual crafts in the schools. Teachers and physicians will be invited to take part in discussions following the lectures.

Opening of the American Hospital in Paris

On October 28 took place the official opening of the American hospital at Neuilly-sur-Seine (one of the suburbs of Paris), Boulevard du Château 55, in the presence of M. Doumergue, Minister of Public Instruction, Messrs. Henry White, United States ambassador, John J. Hoff, vice-president of the council of administration, the members of the board of directors and the medical staff. The hospital contains twenty-five beds in separate rooms, with bathrooms, the equipment being according to the latest hygienic requirements. The hospital, which was founded by certain Americans residing in Paris, will receive in the first place sick and needy Americans, who will be cared for free. Well-to-do Americans may likewise be cared for; from these the hospital will exact no fixed charges, but will receive donations toward the general fund. Two beds will be reserved for emergency cases without regard to the nationality of the patient.

Monument to Professor Liégeois

The monument, raised by international subscription, to Prof. Jules Liégeois, one of the founders of the famous Nancy school, whose tragic death was mentioned in THE JOURNAL, Sept. 12, 1908, li, 929, was unveiled October 24 at Damvillers, department of the Meuse, Liégeois' native city. The monument consists of a bust of the professor and is on a granite pedestal in the center of the public square of the city hall of Damvillers. Besides an official delegation from the University of Nancy, other French and foreign scientists were present at this tribute to the memory of the first jurisconsult who studied the relation of hypnotism and suggestion to criminal law and legal medicine.

Cholera in Belgium

According to official information, there had been, on October 28, six deaths due to cholera at Boom, Belgium. This is the first time that cholera has been officially acknowledged in Belgium since 1892. The foreign governments were informed.

Pharmacology

MEAT AND BEEF JUICES

Report of the Council on Pharmacy and Chemistry

The following was submitted to the Council by a subcommittee:

To the Council: While meat extracts contain only traces of coagulable proteids and have little food value, meat juices are prepared by a process which ensures the presence in the finished product of considerable quantities of coagulable proteids and they therefore have considerable value as foods. Many preparations which are sold as beef juices or meat juices have no right to these designations. Since the public and physicians are likely to be misled by the names given to these products and by the false claims which are made for them as foods and depend on them in the nourishment of the sick, it is important that their composition and their value as foods should be known.

In the following report is presented the results of an examination of some of the commercial products found on the American market. The report shows that *Wyeth's Beef Juice* (John Wyeth & Bro., Philadelphia), *Bovinine* (The Bovinine Co., New York), *Carnine* (Carnine Co., Fougera & Co., New York), and *Valentine's Meat Juice* (M. J. Valentine, Richmond, Va.) are sold under names which are incorrect, that their composition is not correctly stated by the manufacturers and that false and misleading statements are made in regard to their value as food.

It is recommended that the products named be refused recognition for conflict with rules 1, 6 and 8. Since these preparations are typical of many others on the market, and as their use is a menace to the public health it is recommended that the report be published.

This report was adopted by the Council.

W. A. PUCKNER, Secretary.

Beef or meat juices are clearly to be distinguished from beef or meat extracts. The word "juice" applies solely to the fluid portion remaining in fresh meat after proper cooling and storing and may be obtained by pressure or diffusion with or without a low degree of heat. Under heavy pressure freshly chopped meat will yield from 25 per cent. to 40 per cent. of a thick reddish juice and if the meat is previously frozen or heated to 60° C., as much as 50 per cent. may be obtained. This gives some idea as to the probable cost of preparing beef juice at home. The chief characteristics of meat juice are the presence of a considerable proportion of coagulable protein and a low content of meat bases. The above represents the nature of these commodities as usually understood by the medical profession as is clearly shown by this quotation:[1]

"One or two teaspoonfuls of this (meat juice) are added to a teacupful of cold or warm water, which, however, must not be boiling, or otherwise the albumin would be coagulated, but it may, however, be sufficiently warm to drink comfortably."

Beef juice is considered by some physicians of much dietetic service and believed to represent liquid food in concentrated form. W. O. Atwater,[2] relative to this product, says:

"Beef juice obtained from the best steak which has been merely warmed through over the coals and then entirely deprived of soluble substance by a screw press, is undoubtedly the most concentrated of the liquid foods."

The latter authority gives a number of analyses of beef juices prepared under known conditions.

DEFINITION OF MEAT JUICE

Meat juice is defined by the standards committee of the Association of Official Agricultural Chemists as the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble protein. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous bodies contain not less than 35 per cent. of coagulable proteins and not more than 40 per cent. of meat bases.

Meat juices of commerce are supposed to be made by subjecting properly prepared meat to heavy pressure with subsequent concentration of the juice *in vacuo* at a low temperature. The latter is necessary because if the temperature is raised to any material extent the valuable coagulable, soluble proteins referred to above, are precipitated and lost. In order to establish a basis of comparison relative to the composition of natural raw beef juice a number of samples were prepared under known conditions and submitted to analysis. The results contained in the subjoined table clearly show that meat juices made under known conditions vary according to the mode of preparation, but it is evident that practically one-half of the nitrogen is present as coagulable protein.

1. Brunton, Sir Lauder: "Disorders of Assimilation, Digestion, etc.," p. 183.
2. Bull. No. 21, U. S. Dept. Agricult., Office of Experiment Stations.

FOOD VALUES

In order to arrive at the food value of any commodity it is necessary to consider its chemical composition, available potential energy, absorbability, etc. On referring to the analytical table it will be found that the amount of inorganic material in meat juices Nos. 7 and 10 is unduly high. It appears that sodium chlorid, *per se*, has been added to both Bovinine and Wyeth's Beef Juice probably as a preservative in the latter and for condimental purposes in the former. The relative and absolute proportions of phosphatic material in both products is excessive. The other constituents present in the ash are those usually found in meat products.

The amount of sugar and glycerin in Carnine is interesting. These agents may be added for preserving purposes but the resulting product, on account of its syrupy appearance, leads to the belief and is so represented, that it is a concentrated food. Glycerin is also present in Bovinine and Valentine's meat juice. Bovinine in addition contains about 8 per cent. alcohol.

The total nitrogen content of the trade products excepting Carnine, is greater than the amount of nitrogen present in meat juices proper, but the relative amount of nitrogen present as coagulable protein—the valuable part of meat juice—is much greater in the latter. In fact, the amount of coagulable protein present in Valentine's Meat Juice may be considered *nil*, which indicates that an unduly high temperature is used in its preparation. In this connection it should also be noted that even a moderate elevation of temperature influences the chemical composition of meat juices. For example, the coagulable matter present in Nos. 3, 4 and 5, is approximately one-half that present in Nos. 1 and 2, which appears to indicate that the best product can be made without the use of any heat whatever. Several of the trade products, namely Nos. 7, 8 and 9, contain about as much coagulable material as meat juice made by heating beef to 60 C. According to the formula appearing in a circular of the Bovinine Company, a part of the coagulable matter is present in the form of egg albumin, but the company claims egg albumin is not used at present. In the case of Carnine, the coagulable matter appears to be introduced by the use of blood itself. The exact nature of the coagulable protein matter in Wyeth's Beef Juice has not been ascertained. It is well-known to manufacturers and physiologic chemists that it is practically impossible to manufacture a genuine meat juice possessing a reasonable amount of coagulable proteins, which is stable without a preservative.

Meat juices, in addition to the coagulable protein material, contain other protein bodies such as albumoses and peptones. These bodies are largely formed from the original protein bodies present in the meat juice during the process of manufacture. They are highly nutritious and largely and readily absorbed from the alimentary canal but the amount of these bodies present in the trade products is relatively small excepting in Bovinine, which is not a meat juice, particularly when the high prices are considered.

A considerable proportion of the nitrogenous matter contained in Valentine's and Wyeth's products is present in the form of amino bodies frequently included in the general term, "extractives." These bodies may be oxidized in the body and thus supply heat in a manner similar to alcohol, but it should be remembered that there still appears to be a wide difference of opinion among various observers on this point. Some appear to be of the opinion that the amino bodies are devoid of food value in that these bodies appear in the urine practically unchanged. It would, therefore, appear that the value of the amino bodies is largely of a stimulant character.

The food value of meat juices, therefore, resides largely, if not solely, in the coagulable and other protein material present. Comparing the calorific value or potential energy available in meat juices proper on this basis with that present in the commercial products, excluding Bovinine, it will be seen that on the average the genuine meat juices—that is, those made by pressure, direct from the meat itself as wanted—are much superior to the commercial products, notwithstanding the marked concentration in some cases. The calories given in the accompanying table do not include sugar, alcohol or any other added material of this character.

WYETH'S BEEF JUICE

"Wyeth's Beef Juice" is not a true beef juice, but resembles rather a diluted meat extract. It contains much added inorganic matter, is low in coagulable proteins, and considering the degree of concentration, relatively deficient in nutritive value. Some of the claims contained in the circular accompanying this preparation, in view of its composition set forth above, may be of interest:

COMPOSITION OF MEAT JUICES

Number.	Name of Preparation.	Volatile matter 100 C.	Inorganic matter.	Sodium chlorid.	Phosphoric pentoxid (P_2O_5).	Ether extract, Glycerol and undetermined matter.	Total nitrogen.	Coagulable proteins (N x 6.25).	Other proteins (N x 6.25).	Amino bodies (N x 3.12).	Calories per 500 gm. obtained from protein factor 4.8.	Calories per 500 gm. obtained from amino bodies factor 0.56.
		Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.			
Made in Laboratory.												
1	Chuck beef, cold pressed..	86.85	1.86	.20	.31	1.32	1.74	6.13	2.94	.90	217.68	2.52
2	Round beef, cold pressed..	85.76	1.53	.12	.37	.75	2.08	8.56	2.37	1.03	262.32	2.88
3	Chuck beef pressed at 60 C.	91.30	1.29	.19	.29	.81	1.09	2.56	2.50	.84	121.44	2.35
4	Chuck beef pressed at 60 C.	89.56	1.27	.16	.37	2.98	1.09	3.00	2.63	.56	135.12	1.57
5	Round beef pressed at 60 C.	90.65	1.36	.16	.36	2.09	1.16	4.25	.31	1.34	109.44	3.75
6	Chuck beef heated 6 hours before pressing 60-100 C.	98.11	.39	.05	.12	.25	.24	....	1.00	.25	24.00	.70
Trade Products.												
7	Beef Juice, John Wyeth & Bro., Philadelphia, Pa..	58.84	16.21	6.71	3.27	12.51	3.15[1]	2.88	3.56	6.00	154.56	16.8
8	Bovinine, The Bovinine Co. 75 W. Houston St., New York City	80.40[3]	1.55	1.05	.09	3.64[5]	2.36	3.38	10.75	.28	339.12	.78
9	Carnine Co., Lefranco, Paris, France; Imported by Fougera & Co., Agts., New York City.....	24.80[4]	.86	0.09	0.33	68.94[6]	.96	2.25	2.56	.59	115.44	1.65
10	Meat Juice, M. J. Valentine, Richmond, Va	57.64	10.26	1.77	3.41	20.41[7]	3.06[2]	.19	5.44	6.06	135.12	16.97

1. Including .20 per cent. as NH_3; 2, including .22 per cent. NH_3; 3, 8.17 per cent alcohol found; 4, vacuum 70 C.; 5, 3.1 per cent. glycerol found; 6, 47.50 per cent. cane sugar—14.2 per cent glycerol found; 7, 8 per cent. of glycerol found.

The several samples of beef juice were prepared from practically fat free, finely comminuted, chuck and round beef, first by pressure at the ordinary temperature; second, by heating the prepared meat for several hours at 60 C., then submitting to pressure. Sample No. 6 was made from chuck beef, prepared as above, by heating six hours at from 60 to 100 C., and expressing after cooling. It is not a beef juice proper but was prepared, analyzed and added to the list for information. Its composition resembles several commercial articles closely. A number of products represented and sold as meat juice in the United States were analyzed and the results recorded in the accompanying table.

"Wyeth's Beef Juice . . . . , containing two fluid ounces and representing three pounds of prime lean beef, . . ."

". . . beef extracts made by the Liebig process are utterly devoid of the valuable and nutritious albuminous constituents of meat, . . ."

[Wyeth's Beef Juice] "should not be compared with ordinary beef extract, . . ."

BOVININE

Bovinine, advertised as a "condensed beef juice prepared by a cold process" is a mixture of alcohol, glycerin, added sodium chlorid, and apparently some form of defibrinated blood. According to the manufacturer's literature egg albumin was used formerly but this ingredient is said to be no longer employed. It is not a meat juice in any sense of the word. Numerous misrepresentations will be found on the label and in the literature of Bovinine, of which the following are typical:

"The blood of selected steers prepared by a cold process, furnishing a perfect food, free from insoluble elements."

"The rapidity with which Bovinine is absorbed and assimilated in the stomach . . ."

"It supplies complete nutrition to the patient."

"Bovinine contains all the elements of the animal, vegetable and mineral kingdoms for the production of new blood with great rapidity. Its principal constituents have been selected with a view to furnish the largest amount of nutriment in the most condensed form and all the resources of modern chemical analysis have been brought to bear on this important problem."

A series of experiments carried out with dogs under anesthesia, by injecting Bovinine into the stomach, the pyloric end of which was ligated, shows that Bovinine is not readily absorbed and assimilated by the stomach as claimed. The amount of protein material found in the stomach at the end of one-half hour to one hour and a quarter was practically equal to the amount introduced by the Bovinine.

It is also represented that Bovinine is of great service in case of an irritable stomach. This is not borne out by experiment. Bovinine fed to dogs by the mouth, either alone or mixed with food, induced vomiting, which was less marked when Bovinine was given with the regular diet. An examination of the urine of these animals showed a marked diminution of the amount of indican, while the ethereal sulphates were enormously increased, both absolutely and relatively, when Bovinine was given. Experiments on rabbits have shown that Bovinine injected into the peritoneal cavity was invariably followed by large quantities of albumin in the urine, which persisted for from 24 to 48 hours. Thirty to 50 c.c. per kilo given by mouth daily caused emaciation and weakness; in some cases, irritation of the gastrointestinal canal, with death of the animal in from 7 to 12 days.

CARNINE

Carnine is a French preparation imported into the United States by Fougera & Co., of New York City. In physical appearace it looks like highly concentrated food, but analysis shows that it consists of a small proportion of defibrinated blood dissolved in a mixture of syrup and glycerol, the whole agreeably flavored. It is represented as a "juice of rare meat, prepared by cold process. Each tablespoonful represents 100 gm. of raw meat, or 3½ ounces." It is clear that Carnine is not a meat juice in any sense of the word.

VALENTINE'S MEAT JUICE

Valentine's Meat Juice resembles in physical appearance taste, odor and by chemical analysis a diluted meat extract. The nutritive value of meat extracts is virtually *nil*, as is well-known by the medical profession. Notwithstanding the composition of Valentine's Meat Juice and the fact that beef extract represents little nutritive value, the manufacturer makes the following misleading representations:

"The two-ounce oval bottle, adopted for the Meat Juice contains the concentrated juice of four pounds of the best beef, exclusive of fat; or the condensed essence of one and a half pints of pure liquid juice which is obtained from the flesh of beef."

"The use of *hot water* with the Meat Juice *changes its character and impairs its value.*" [Italics in original.—Ed.]

The company must certainly be aware of the fact that its product contains little, if any, coagulable proteids.

CONCLUSIONS

In conclusion; neither Bovinine nor Carnine is a meat juice, the former is anything but palatable and the latter soon cloys. "Valentine's Meat Juice" and "Wyeth's Beef Juice" are virtually diluted meat extracts which are known to possess little food value. A physician depending on any of the foregoing products to supply material nourishment, in case of serious illness, is deceiving himself, starving his patients, and may be lessening their chances for recovery. If a patient recovers while using these commodities, it is certainly not due to the food value contained in them.

ENTERONOL

An Invitation to The Journal to Humbug the Profession

THE JOURNAL has received a circular letter from the Enteronol Company, in which the following liberal offer is made:

"We are willing to take one-fourth or one-half page 'ad' in your Journal for a year at the regular rate, on condition that you accept payment therefore in our GUARANTEED 7 per cent., preferred stock at par; or if you desire, in ENTERONOL at the net wholesale price to physicians."

Not that this offer is made exclusively to THE JOURNAL:

"A large number of medical journals have accepted the foregoing proposition; many carrying this advertising for several years already."

"Our company is cooperative; we paying no cash for advertising. The company is owned principally by physicians, medical journals, and druggists."

The journals of which we have record that carry the enteronol advertisement are: *Kansas City Medical Record, Milwaukee Medical Journal, Toledo Medical and Surgical Reporter, Proctologist, Pediatrics,* and the *Atlanta Journal-Record of Medicine.* If the statements made by the Enteronol Co. are true, we might infer that these journals are being paid for advertising space either with "preferred stock" or with the nostrum itself. As we have previously shown, however, the veracity of the enteronol advertising matter is by no means unimpeachable.

Enteronol, it will be remembered, was exposed in THE JOURNAL, March 21, 1908. It is advertised as the "greatest antiseptic and germicide known to science," and possesses (?) such remarkable power that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." "The original product is found only high up on the sides of the loftiest mountains in the world—the Himalayas of India."

THE "LITERATURE" FORMULA

Of course it has a "formula":

Ipecac	Lupulin
Sub. nit. bismuth	Caffein
Latalia rad.	Rheum
Camphor	

This seems very open and above board, except as to quantities, until one tries to find out what "latalia rad." is; then it is discovered that it is the "mysterious stranger" of pharmacognosy. Experts to whom this "remedy" was submitted were unable even to find mention of such a drug or plant as "latalia rad." Nor was this the only fake found concerning the stuff; carefully conducted experiments repeatedly carried out in the Association's laboratory failed to disclose even a trace of bismuth subnitrate or caffein. These experiments did show, however, that the tablets contained an amount of aluminum corresponding to over 25 per cent. of crystallized alum. This led to the conclusion that alum, whose presence is not even hinted at in the "formula," is the chief constituent of enteronol and as a corollary that the formula is meaningless and worthless.

THE LABEL FORMULA

There is a curious lack of coordination between the "formula" as printed on the label and that given in the "literature." The Food and Drugs Act, it will be remembered, makes lying on the label illegal, and therefore dangerous; statements in advertising matter that does not accompany the product, however, are not controlled by that law. The "formula" in the "literature" we have already given; the "formula" on the label gives the following ingredients:

Ipecac	Lupulin
Sub. nit. bismuth	Caffein
Opium, ¼ gr.	Rheum
Camphor	

Two things about this are worth noting: One is that the name of the ingredient on which the manufacturer lays so much stress—latalia rad., the mysterious Himalayan plant—is absent from the label. This would seem to indicate that what has already been intimated by THE JOURNAL—namely, that latalia rad. is a figment of the imagination—is a fact. The second noticeable thing about the label "formula," as distinct from the "formula" in the advertising matter, is that on the label we find there is opium in the preparation. Why is no mention made of the presence of this potent drug in the advertising matter?

To determine how nearly the present statements made by the Enteronol Company approximate truthfulness, our chemists were asked to examine the nostrum as it is now sold. Their report follows:

LABORATORY FINDINGS

An original package of enteronol tablets was purchased on the open market and submitted to the Association laboratory for examination. In general appearance, odor and taste the new tablets are similar to those previously examined. The formula for the old tablets was given as "Ipecac, Sub. nit. bismuth, Latalia rad., Camphor, Lupulin, Caffein, Rheum," and is still used in the circulars. But the label on the trade package no longer mentions "latalia rad." Since the presence of "latalia rad.," in the old tablets, was questioned, and as new labels have ceased to display the name, it was thought possible that caffein and bismuth might now be constituents of enteronol, as the drugs are still mentioned in the new formula on the label. Accordingly, enteronol was examined chemically to verify the statements on the label regarding the presence of caffein and bismuth in the tablets.

The specimen submitted to the laboratory some time ago was found to contain neither bismuth nor caffein. By employing the same methods as were used before (the usual tests for detecting caffein and bismuth), neither caffein nor bismuth could be demonstrated. It is thus evident that this new specimen of enteronol, the statement on the label to the contrary notwithstanding, contains neither bismuth nor caffein—at least, in appreciable quantities.

One would think that the discrepancy between "formulas" and facts would prove of interest to the stockholders of the Enteronol Company, especially as we are told that the policy of the company is to have "practical men as stockholders." We are informed:

"Therefore, we have physicians, advertising experts, printers, publishers, engravers, boxmakers, lithographers, druggists, lawyers, traveling salesmen, officers and men holding executive positions in various manufacturing and commercial corporations, editors of medical publications, bishops, clergymen and missionaries—men from all the fields particularly valuable commercially for our great enterprise."

Yet if the physician-stockholders do not care to concern themselves about the composition of the nostrum from the sale of which they derive dividends, it can hardly be expected that the boxmakers or traveling salesmen will be interested.

STOCK FOR SALE

Medical journals are not alone in being invited to participate in the exploitation of this nostrum, *vide* a circular letter from the Enteronol Company addressed "To Investors":

"We offer at par of $10 each, 1,000 shares of our Guaranteed 7 per cent. Preferred Stock, cumulative dividends, payable quarterly . . . Profits on business done last year were 54 cents for every dollar expended . . . *We guarantee absolute security for your investment. Safer than a bank.*" [Italics ours.—Ed.]

We are told that at present the Enteronol Company manufactures two products: a castor-oil preparation, known as fig-ol, and enteronol. Very shortly, however, the company expects to "add seven equally efficient products."

"The average cost to manufacture, ready to ship, a dollar's worth of these goods is less than ten cents."

"In enteronol alone, the company has fortunes and the only thing needed to bring tremendous results and dividends of 100 per cent. is the proper amount of judicious advertising."

Here are some samples of the judicious (?) advertising:

"One Christian missionary, the Rev. Paul Singh of Jubbulpore, India, testifies that he cured thirteen severe cases of Asiatic Cholera with a box containing less than thirty tablets" [of enteronol].

"Wm. F. Oldham, bishop of Southern Asia, writes us that enteronol cured nine cases out of ten of Asiatic Cholera. Now just think of India and China with their 800,000,000 people who are dying by the thousands of a disease which we have the power to cure so easily."

How like a discourse by that delightful character of Mark Twain's—the visionary Colonel Sellers—this reads. As he said about his "Infallible, Imperial, Oriental Optic Liniment:"

"Why in the Oriental countries . . . every square mile of ground upholds its thousands on thousands of struggling, human creatures—and every separate and individual devil of them's got the ophthalmia."

The prospective stockholder is told that an ordinary business concern reaches the limit of financial possibilities in a few years, but:

"Not so with the Enteronol company—it is a mail-order business and the world is its territory."

Even so with Colonel Seller's "Optic Liniment:"

". . . it's a patent medicine whose field of operations is the solid earth."

And we are told elsewhere that "about four-fifths of the outstanding stock is held by the medical profession alone"!

And this stuff is advertised in medical journals!!

We are sometimes in danger of being too optimistic regarding the results of the propaganda for reform in proprietary medicines. Cases like this act as a corrective.

Correspondence

Eye Changes in Pellagra—Credit to Dr. Welton

To the Editor: In going over the report of the Conference on Pellagra at Columbia, S. C., November 3 and 4 (THE JOURNAL, November 13), I find that the reporter has given me credit for some conclusions which should rightly be credited to Dr. Carroll B. Welton of Peoria, Ill., namely, in the report of my paper (page 1661), that portion beginning, "Paralysis of the eye muscles is found in the later stage of the disease," and ending, "The finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination." These conclusions were quoted as a matter of general interest, due credit being given Dr. Welton, from a paper by him which appears in the same issue of THE JOURNAL, page 1636. I very much regret we have been put in this false position.

J. F. SILER, Captain Medical Corps, U. S. Army.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EOSINOPHILIA: ITS CAUSE AND SIGNIFICANCE: LITERATURE

To the Editor:—What is the most generally accepted view regarding the cause and significance of eosinophilia? Please refer me to the most recent literature on the subject R. L. S.

ANSWER.—Eosinophilia is apparently due to the entrance of some toxin into the blood but the nature of the exciting cause is not certainly known. Infections are usually accompanied by a relative or absolute decrease of eosinophiles. Exceptions are seen in scarlatina and malaria. Malignant diseases seldom show eosinophilia. Affections of the genitals are accompanied by eosinophilia. It is found in myeloid leucemia and in bronchial asthma, especially in the sputum. Eosinophilia is likely to occur in any case in which intestinal worms are present, particularly in uncinariasis and trichiniasis. The discovery of eosinophilia is of service in the diagnosis of helminthiasis, in distinguishing non-malignant from malignant disease of the viscera, etc. It tends to make the prognosis favorable in scarlatina, chlorosis, pernicious anemia, and after hemorrhage.

Following are titles of some of the most recent articles on the subject:

Stäubli, C.: Zur Kenntnis der lokalen Eosinophilie, *München. med. Wchnschr.*, 1906, lii, No. 43.

Simon, C. E.: Eosinophilia, *Internat. Clin.*, Series 15, Vol. iv.

Blumenthal, A.: Note sur l'eosinophilie hématique et locale, *Jour. méd. de Bruxelles*, 1906, xi, 737.

Schinckel, R.: L'éosinophilie bulleuse, *Ann. Soc. de méd. de Gand*, 1906, lxxxvi, 237.

Lams, H.: L'éosinophilie considérée comme moyen de pronostic, *Compt. rend. Soc. de biol.*, Paris, 1907, lxii, 489.

Mosny, E., and Harvier, P.: Sur un cas d'éosinophilie méningée d'origine locale sans éosinophilie sanguine, *Arch. de méd. expér. et d'anat. path.*, Paris, 1907, xix, 273-281.

Widal, F., and Faure-Beaulieu: Eosinophilémie et histoéosinophilie, *Bull. et mém Soc. méd. d. Hôp. de Paris*, 1907, Series 3, xxiv, 966-968.

Folger, A. F.: Ueber lokale Eosinophilie (Gewebeosinophilie) bei zooparasitären Leiden, *Ztschr. f. Infektionskr. . . . . d. Haustiere*, 1908, iv, 102-131.

Bazzicalupo: Connection between Eosinophilia and Antibodies in Serum, *Gazz. d. osp.*, March 22, 1908, xxix, No. 35; abstr. in THE JOURNAL A. M. A., May 9, 1908, l, 1575.

Lincoln, M.: Hodgkin's Disease with Eosinophilia; Report of a Case with Autopsy, *Boston Med. and Surg. Jour.*, May 9, 1908.

Neilson, C. H., and Marchildon, J. W.: Eosinophilia Produced by Potassium Iodid, THE JOURNAL A. M. A., April 25, 1908, l, 1350.

Bartlett, C. J.: Report of a Case of Acute Trichiniasis Without Eosinophilia, *Yale Med. Jour.*, 1908-9, xv, 229.

Ebhardt, F.: Untersuchungen über das Vorkommen und die Bedeutung lokaler Eosinophilie bei tierisch parasitären Organerkrankungen unter gleichzeitiger Berücksichtigung einiger infektiöser Organleiden, *Deutsch. tierärztl. Wchnschr.*, 1909, xvii, 161.

Brissaud, E., Joltrain, E., and Weill, A.: Eosinophilie sanguine et locale dans les sporotrichoses humaines et expérimentales, *Compt. rend. soc. de biol.*, Paris, 1909, lxvi, 305.

Weinberg and Alexander, M.: Quelques données sur l'éosinophilie dans les helminthiasis, *Bull. Soc. path. exot.*, Paris, 1908, i, 459-463.

Weinberg and Mello, O.: Recherches expérimentales sur l'origine de l'éosinophilie dans les helminthiasis, *Bull. Soc. path. exot.*, Paris, 1908, i, 463-471.

REFRACTION FOR GENERAL PRACTITIONERS

To the Editor:—Please tell me where I can obtain a short or condensed work on simple refraction for family physicians or general practitioners, as I think every physician should be qualified to do refraction work. J. B. DILLON, M.D., Paragould, Ark.

ANSWER.—One of the best works is Thorington's treatise on the refraction of the eye. The subject is also satisfactorily treated in a number of ophthalmic text-books, such as Jackson's "Diseases of the Eye," Wood and Woodruff's "Commoner Diseases of the Eye," etc. It must not be assumed that even the elements of the "fitting of glasses" can be learned by the reading of any book, however earnestly pursued. Even the rudiments of practical refraction work, like the practice of auscultation, or cystoscopy or urinalysis, call for something more than mere literary knowledge. Indeed, the most important part of lens prescription consists in the use of mechanical appliances whose successful employment requires considerable practice with the aid and under the eye of a competent instructor. Unless one has obtained this practical instruction during one's college career it would be necessary to spend a month or longer in securing it before one could conscientiously undertake to prescribe glasses. The physician's education gives him a decided advantage over the optician and the "optometrist" in this work. It should be realized, however, that only painstaking and intelligent work will enable the physician to compete successfully with those who "examine eyes free." His eventual aim should be to consider, not only how to measure refractive errors, but, as a part of this work, to determine the balance of the eye muscles, the state of the ocular fundi (by the use of the ophthalmoscope) the condition of the anterior parts of the eye and, finally, to decide to what extent, if any, the neighboring organs and the general health are responsible for the ocular symptoms. These the physician would be able to do, while the optometrist could not. In other words, in doing this work the practitioner will find his collegiate training of decided value. He ought, with an equal amount of study and application, to make a much better and more effective refractionist than his competitor, the "doctor of optometry," who is really attempting to solve, without a medical education, problems that are essentially medical.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 13, 1909.

Murtaugh, J. A., capt., ordered to report at San Francisco, for examination for promotion.

Christie, A. C., Johnson, H. H., and Gostin, B. S., 1st lieuts., relieved from duty in the Philippines Division; will sail January 15, for San Francisco.

Kennedy, J. M., major, ordered to take temporary charge of the office of the Chief Surgeon, Dept. of California.

Webber, H. A., major, granted leave of absence for 2 months.

Dear, W. R., Wright, F. S., Treuholtz, C. A., Dunbar, L. R., and Davis, A. D., 1st lieuts., relieved from duty at their present stations; will proceed to San Francisco, and sail January 5, for Philippine service.

Wallace, G. S., 1st lieut., M. R. C., granted leave of absence for 14 days.

Jarrett, A. R., 1st lieut., M. R. C., relieved from duty at Fort Hamilton, N. Y.; will proceed home and then stand relieved from active duty in the Medical Reserve Corps.

Merrick, J. N., and Jenkins, F. E., 1st lieuts, M. R. C., relieved from duty in the Philippines Division; will sail January 15, for San Francisco.

Scott, H. O., dental surgeon, granted leave of absence for 2 months, on arrival in the United States.

Craig, E. J., dental surgeon, relieved from duty at Fort Leavenworth, Kan., and ordered to proceed to his home for annulment of contract.

Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 10, 1909:

Stoner, G. W., surgeon, granted 7 days' leave of absence from Oct. 30, 1909, under paragraph 189, Service Regulations.

Carter, H. R., surgeon, granted 15 days' leave of absence from November 10, 1909, on account of sickness.

White, J. H., surgeon, granted 4 days' leave of absence en route to station.

McIntosh, W. P., surgeon, granted 10 days' leave of absence from Nov. 10, 1909.

Oakley, J. H., surgeon, granted 1 day's leave of absence, Nov. 5, 1909.

Francis, Edward, P. A. surgeon, detailed as Assistant Director of the Hygienic Laboratory, effective Nov. 5, 1909.

Francis, Edward, P. A. surgeon, directed to proceed to Detroit, Chicago and Milwaukee, on special temporary duty.

Burkhalter, J. T., P. A. surgeon, granted 7 days' leave of absence from Nov. 8, 1909.

McCoy, G. W., P. A. surgeon, directed to proceed to Berkeley, Cal., on special temporary duty.

Creel, R. H., P. A. surgeon, on the arrival of Surgeon W. G. Stimpson, directed to proceed to Baltimore, and report to the medical officer in command for duty and assignment to quarters.

Spratt, R. D., P. A. surgeon, granted 20 days' leave of absence from Nov. 17, 1909.

de Valin, Hugh, P. A. surgeon, granted 1 month's leave of absence from Nov. 10, 1909.

Wollenberg, R. A. C., asst.-surgeon, relieved from duty at Naples, Italy, and temporary duty at Detroit, and directed to proceed to San Francisco, and report to Passed Assistant-Surgeon W. W. King for duty.

Atilles, P. del V., acting asst.-surgeon, leave of absence granted for 30 days from Aug. 18, 1909, with pay, and 15 days from Sept. 17, 1909, without pay, amended to read 30 days from Aug. 23, 1909, with pay, and 2 days from September 23, 1909, without pay.

Mason, W. C., acting asst.-surgeon, granted 5 days' leave of absence from Nov. 18, 1909.

Miranda, R. U. Lange, acting asst.-surgeon, leave of absence granted for 1 month from Oct. 8, 1909, without pay, amended to read 7 days from Oct. 8, 1909, without pay.

Richter, H. C., acting asst.-surgeon, granted 15 days' leave of absence from Oct. 15, 1909.

Terry, M. C., acting asst.-surgeon, leave of absence granted for 21 days from Oct. 1, 1909, with pay, and 9 days from Oct. 22, 1909, without pay, amended to read 21 days from October 2, 1909, with pay, and 2 days from Oct. 23, 1909, without pay.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Nov. 12, 1909:

SMALLPOX—UNITED STATES

Alabama: Mobile, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 16-31, 3 cases.
Illinois: Chicago, Oct. 24-30, 2 cases.
Indiana: Muncie, Oct. 1-31, 9 cases.
Kansas: Labette County, Parsons, Sept. 1-30, 1 case; Scott County, 1 case; Shawnee County, Topeka, 2 cases.
Louisiana: New Orleans, Oct. 1-30, 1 case.
Michigan: Saginaw, Oct. 10-15, 3 cases.
Montana: Dawson County; Sept. 1-30, 2 cases; Silver Bow County, 1 case.
New York: Buffalo, Oct. 24-30, 2 cases.
Ohio: Springfield, Oct. 17-30, 6 cases.
Oregon, general, July 1-31, 21 cases, Aug. 1-31, 15 cases; Portland, Sept. 1-30, 8 cases.
Texas: San Antonio, Oct. 1-30, 1 case.
Utah, general, Sept. 1-30, 59 cases.
Wisconsin: La Crosse, Oct. 24-30, 1 case.

SMALLPOX—FOREIGN

Brazil: Bahia, Sept. 25-Oct. 8, 25 cases, 15 deaths; Pernambuco, Aug. 16-31, 11 deaths; Rio de Janeiro, Sept. 27-Oct. 10, 3 cases.
China: Shanghai, Sept. 25, present among natives.
Great Britain: London, Oct. 3-9, 1 case.
India: Bombay, Sept. 29-Oct. 5, 4 deaths; Madras, Sept. 25-Oct. 1, 2 deaths; Rangoon, Sept. 19-25, 1 death.
Italy, general, Oct. 11-17, 37 cases; Genoa, Oct. 1-15, 1 case; Naples, Oct. 11-17, 4 cases.
Mexico: Medellin, Oct. 18-24, present in vicinity; Monterey, 1 death; Soledad, 3 cases; Veracruz, Oct. 24-26, 10 cases, one case from Orizaba; October 26, 1 case on s. s. *Montevideo*.
Russia: Moscow, Oct. 3-9, 2 cases; Odessa, 12 cases, 5 deaths, Riga, Oct. 3-10, 1 case; Warsaw, Sept. 5-11, 2 cases.
Spain: Almeria, Sept. 1-30, 3 deaths; Barcelona, Oct. 12-18, 4 deaths; Huelva, Sept. 1-30, 14 deaths; Valencia, Oct. 9-16, 1 case; Vigo, 1 death.
Uruguay: Montevideo, Aug. 1-31, 8 deaths.

CHOLERA

Belgium: Boom, Oct. 26-30, 9 cases, 6 deaths, vicinity of Antwerp.
China: Amoy, Sept. 19-25, 22 deaths; Shanghai, Sept. 25, present among natives.

Germany: Andreischen, Nov. 1, 3 cases; Heydekrug, 1 case; Lalian district, 3 cases; Neiderung district; 3 cases.
India: Bombay, Sept. 29-Oct. 5, 6 deaths; Rangoon, Sept. 12-25, 10 deaths.
Java: Batavia, Sept. 12-25, 200 cases, 100 deaths.
Russia: St. Petersburg, Oct. 9-15, 266 cases, 111 deaths; Moscow, Oct. 3-9, 1 death; Riga, Oct. 10-16, 4 cases, 2 deaths.

YELLOW FEVER

Brazil: Para, Oct. 9-16, 4 cases, 2 deaths; Pernambuco, Aug. 16-31, 1 death.
Mexico: Merida, Oct. 20-21, 2 cases, 1 death.

PLAGUE—UNITED STATES

California: Contra Costa County, Oakland, Oct. 26, 1 case.

PLAGUE—FOREIGN

Brazil: Bahia, Sept. 25-Oct. 8, 18 cases, 13 deaths; Rio de Janeiro, Oct. 3-10, 1 case.
China: Amoy, Sept. 19-25, 38 deaths.
Japan: Kobe, Sept. 26-Oct. 2, 7 cases, 3 deaths.
India, general, Sept. 19-25, 4,650 cases, 3,595 deaths; Bombay, Sept. 29-Oct. 5, 15 deaths; Rangoon, Sept. 12-25, 5 deaths.

Marriages

SIR WILFRED THOMASON GRENFELL, M.D., Battle Harbor, Labrador, to Miss Anna MacClannahan of Chicago, November 18.

EUGENE ALBERT SMITH, M.D., Milwaukee, Wis., to Miss Daisy Arloine Lamoreaux of St. James, Minn., November 4.

ARTHUR HARRIS JOHNSON, M.D., Greensboro, N. C., to Miss America Seay, at the Shores, Virginia, November 2.

ROBERT THRIFT FERGUSON, M.D., Gaffney, S. C., to Miss Mary Steele Parrish, at Richmond, Va., November 2.

W. ELTON MCWHIRT, M.D., Globe, Ariz., to Miss Maude Estelle Sherrick of Libertyville, Iowa, November 4.

ROBERT HENRY STEPHENS, M.D., Treynor, Iowa, to Miss Margaret Ward of Council Bluffs, Iowa, November 4.

CHARLES FREEMAN STARR, M.D., Mason City, Iowa, to Miss Alma Taylor of Emmetsburg, Iowa, October 28.

WILLIAM SEBALD KELLER, M.D., Cincinnati, to Miss Harriette Richardson of Glendale, Ohio, October 26.

DANIEL ALDEN BARRELL, M.D., to Miss Martha Louise McFarland, both of Auburn, Maine, November 5.

CHRISTIAN P. GLAHN, M.D., Palmyra, Mo., to Miss Nellie G. Holman of Hurdland, Mo., November 3.

WALTER FREEMAN BROWN, M.D., to Miss Mabelle Stewart Moore, both of Philadelphia, October 21.

WALTER W. COVELL, M.D., Brownlee, Neb., to Miss Martha B. Lund of Kearney, Neb., September 29.

RALPH VERNON MOORE, M.D., Amboy, Ill., to Miss Catherine Sheridan of Freeport, Ill., November 3.

JAMES HERBERT YOUNG, M.D., Newton, Mass., to Miss Irene Hamilton of Newark, N. J., October 28.

CHARLES P. FEELEY, M.D., to Miss Matilda A. Sennott, both of Cambridge, Mass., November 2.

ROBERT J. GREGG, M.D., to Mrs. Gertrude H. Moorehouse, both of Dulzura, Cal., recently.

ROBERT IRVING BULLARD, M.D., to Miss Ellen Merriman, both of Springfield, Ill., November 4.

Deaths

Marcus Patten Hatfield, M.D. Chicago Medical College, 1872; for many years a member of the American Medical Association; professor of diseases of children in Chicago Medical College from 1875 to 1896; since 1898 professor of pediatrics in the Chicago Clinical School; clinical professor of pediatrics in the Medical Department of the University of Illinois; president of the medical board of La Rabida, the Jackson Park Fresh Air Sanitarium; attending physician to the children's department of Wesley Hospital and Chicago Protestant Orphan Asylum; author of several works on the diseases of children and hygiene and editor of the *Chicago Clinic*; died at his home, November 11, from tuberculosis, aged 60.

John Harvey Davisson, M.D. College of Physicians and Surgeons, Baltimore, 1876, and Cathell gold medalist of his class; a member of the American Medical Association; one of the organizers of the Southern California Medical Society and of the California Hospital Association; formerly president of the California State Board of Health; for four terms a member of the Los Angeles Board of Health; formerly professor of physiology and materia medica in the Fort Wayne (Ind.) College of Medicine; local surgeon at Warsaw to the Pennsylvania System, and secretary of the Surgeons' Association of the Pennsylvania Railway; died at his home in Los Angeles, November 1, from nephritis, aged 60.

Gabriel Grant, M.D. College of Physicians and Surgeons, New York City, 1850; a member of the American Medical Association; in 1852 a practitioner on the Isthmus of Panama; afterward health commissioner of Newark, N. J.; surgeon of the Second New Jersey Volunteer Infantry for more than three years during the Civil War, until forced to retire on account of a wound received in battle; died at his home in New York City, November 8, aged 83.

Augustus F. Anderson, M. D. Medical College of Georgia, Augusta, 1845; a member of the Medical Association of Georgia; assistant surgeon of the Sixth South Carolina Infantry, C. S. A., during the Civil War and for a number of years thereafter a member of the local pension board; a member of the legislature in 1878; died at his home near Lowryville, S. C., November 1, from heart disease, aged 91.

Aaron W. Riker, M.D. Albany (N. Y.) Medical College, 1856; president of the village of Fenton, Mich., for several terms a member of the village council, and for twenty years a member of the school board; for many years district surgeon for the Detroit, Grand Haven and Milwaukee Railway; died at his home in Fenton, October 31, from fatty degeneration of the heart, aged 78.

William M. McQuerry, M.D. Transylvania University, Lexington, Ky., for more than forty years a practitioner of Texas; a member of the State Medical Association of Texas, and a charter member of the Brown County Medical Society; a lieutenant in the Confederate service throughout the Civil War; died at his home in Zephyr, September 24, aged 76.

William Kirker Coleman, M.D. Medical College of Ohio, Cincinnati, 1881; a member of the American Medical Association, and a member of the local pension examining board; president of the Adams County (Ohio) Bank; and until recently superintendent of the State Hospital for Epileptics, Gallipolis; died at his home in West Union, November 5, aged 56.

Edward Taylor M. Rickard, M.D. Lincoln (Neb.) Medical College, 1897; College of Physicians and Surgeons, Chicago, 1906; of Weeping Water, Neb.; a member of the American Medical Association; while making a professional call near Weeping Water, November 8, was instantly killed by being crushed under his overturned automobile, aged 46.

Henry Palmer, M.D. University of Michigan, Ann Arbor, 1887; formerly a member of the Michigan State Medical Society; for several terms mayor of St. Johns, and health officer and supervisor of Clinton county; a member of the local pension board; died at his home in St. Johns, November 2, from diabetes, aged 52.

Robert W. Chapman, M.D. Kentucky School of Medicine, Louisville, 1886; a member of the State Medical Association of Texas and a practitioner since 1882; for several years a member of the medical examining board of the Second Judicial District of Texas; in 1895 elected state representative, and re-elected in 1907; died at his home in Geneva, January 4, aged 49.

Charles Frederick George, M.D. College of Physicians and Surgeons, New York City, 1865; a member of the New Hampshire Medical Society; associate physician at the Eliot Hospital, Manchester; died suddenly at his home in Goffstown, November 3, from cerebral hemorrhage, aged 68.

Luther A. Davison, M.D. New York University, New York City, 1882; of Hartford; a member of the Connecticut State Medical Society; while returning after making a professional call, November 1, had a cerebral hemorrhage, and died at the Hartford Hospital, aged 60.

Edward Aubert Besson, M.D. College of Physicians and Surgeons, San Francisco, 1900; a member of the American Medical Association; visiting physician at the French Hospital, San Francisco; died at his home in that city, November 4, aged 42.

Samuel D. Robbins, M.D. Tulane University, New Orleans, La., 1876; formerly acting assistant surgeon United States Marine Hospital Service at Vicksburg, Miss.; founder of the Mississippi State Charity Hospital; died in Vicksburg, November 4.

George C. Waiss, M.D. Rush Medical College, Chicago, 1894; a member of the American Medical Association; consulting gynecologist to the Hospital of St. Anthony of Padua; died at his home in Chicago, November 11, from appendicitis, aged 42.

Valentine Braun, M.D. Starling Medical College, Columbus, Ohio, 1853; a member of the Toledo school board and council, and in 1865 treasurer of Lucas County; died at the home of his niece in Toledo, October 19, from senile debility, aged 80.

William D. Ray, M.D. Tulane University, New Orleans, La., 1892; a member of the State Medical Association of Texas; local surgeon of the Southern Pacific Railroad at East Bernard for ten years; died at his home, September 26, aged 58.

Samuel Moses Post, M.D. University of Michigan, Ann Arbor, 1871; a member of the Michigan State Medical Society; a member of the local pension board; died suddenly at his home in St. Johns, November 6, from heart disease, aged 61.

Franklin B. Ives, M.D. Rush Medical College, Chicago, 1850; a practitioner and clergyman of Bureau County, Ill., for many years, and later a resident of California; died at his home in Long Beach, November 1, from senile debility, aged 86.

Andrew Franklin Brown, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1859; formerly of Laddonia, Mo.; president of the Citizens' Bank, Wentzville, Mo.; died at his home in that place, October 10, from gastritis, aged 70.

James Franklin Davis, M.D. Jefferson Medical College, Philadelphia, 1859; of Clinton, S. C.; a surgeon in the Confederate service during the Civil War; died at the home of his cousin, near Clinton, November 4, aged 74.

Edward Joseph Hogan, M.D. College of Physicians and Surgeons, New York City, 1867; a member of the American Medical Association; died at his home in New York City, November 7, from heart disease, aged 72.

Sylvester M. King, M.D. Hahnemann Medical College, Chicago, 1878; for many years a member of the local pension board of Monroe County, Iowa; died at his home in Albia, November 1, from pneumonia, aged 73.

Jacob Hamaker Drawbaugh, M.D. College of Physicians and Surgeons Baltimore, 1886; a member of the American Medical Association; died at his home in Shiremanstown, Pa., September 4, from tuberculosis, aged 50.

Charles Henry Burnham, M.D. Medical School of Maine, Brunswick, 1866; a member of the New Hampshire Medical Society; died at his home in Jefferson, N. H., November 3, from cerebral hemorrhage, aged 66.

Sarah Jane Williams, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1871; city physician of Springfield, Mass., in 1872; died in Boston, Sept. 27, 1908, from general paralysis, aged about 69.

Lathrop Russell Charter, M.D. Castleton (Vt.) Medical College, 1841; a charter member of the West Virginia State Medical Association; died at his home in West Union, September 28, from acute nephritis, aged 92.

Richard H. Rhoden, M.D. Missouri Medical College, St. Louis, 1886; a member of the American Medical Association; surgeon to the Fremont (Neb.) Hospital; died at his home in Fremont, October 30, aged 47.

Styles M. Taylor, M.D. Memphis (Tenn.) Hospital Medical College, 1892; for twenty-seven years a practitioner of Texas; died at his home in Yale, near Mount Vernon, September 10, from typhoid fever, aged 55.

Morris Lewis Davis, M.D. Starling Medical College, Columbus, Ohio, 1879; New York University, New York City, 1884; died at his home in Agency, Iowa, May 21, 1908, from gastric ulcer, aged 63.

Bert Jerome Longwell, M.D. University of Nashville (Tenn.), 1903; of Wheeling, W. Va.; died in St. Joseph's Hospital, Logansport, Ind., October 20, from nephritis, aged 36.

James F. Irvin, M.D. University of Pennsylvania, Philadelphia, 1853; died at his home in Des Moines, September 25, from cerebral hemorrhage, aged 80.

L. Joseph Struzynski, M.D. University of Dorpat, Russia, 1850; died at his home in Joliet, Ill., November 5, from senile debility, aged 86.

Silas James Chesebrough, M.D. Albany (N. Y.) Medical College, 1844; is reported to be dead at his home in Syracuse, N. Y.

Lemier Congdon, M.D. University of Buffalo (N. Y.), 1852; died in his rooms in Springfield, Mass., November 4, aged 74.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

MEDICAL ORGANIZATION IN VERMONT AND NEW HAMPSHIRE

By J. N. McCormack, M.D.
Chairman of the Committee on Organization
BOWLING GREEN, KY.

I have never had a more delightful experience, or come in contact with a more cultivated profession and people, than during the sixteen days' itinerary in Vermont and New Hampshire. The Green and White Mountain lake and valley regions may have less of grandeur and sublimity than Switzerland, but they rival it in picturesque beauty and excel it in fertility. In fact, but for the lack of the loftiest, snow-capped peaks and glaciers, and the absence of women from the fields and other out-of-door labor, the small valley and hillside farms were so carefully cultivated, the houses, gardens and orchards looked so neat, tasteful and prosperous, and industries of every kind were so varied and profitable that one was constantly reminded of that beautiful and thrifty country. It was in all of its glory, too, in the latter part of September and the beginning of October, with ideal weather most of the time, and the rich coloring of the forests and fields was beyond any power of my pen to describe.

The public meetings were admirably planned and advertised, the suggestions of Dr. Green having been followed in both letter and spirit, and taken one with another, the audiences and discussions were better and more appreciative than in any other section I have visited. Governor Quimby presided at one of the meetings in New Hampshire, U. S. Senator Burnham at another, and congressmen, judges and other leading officials or citizens took an intelligent and often an enthusiastic part in the discussion at each appointment. The standards of education are higher and more general here than in the West and South, and I have found that the people are responsive to reform just in proportion to their intelligence.

Except in Burlington, Concord and a few other places, the medical meetings in the afternoon were not so well arranged or attended. In fact, one could not avoid the impression that there was danger of the public becoming more progressive than the profession in all these matters, just as the pews often seem to lead the pulpit in moral reforms. For instance, at his great marble works a little way out from Rutland, Governor Proctor has provided for his 3,200 employees and their families one of the purest and best protected of water supplies, model schools, churches, a hospital, library, Y. M. C. A. building, and isolation hospital for consumptives, in a broad way which might well be held up as an object lesson for employers of labor everywhere, both for its humanitarian and economic advantages. This wise young layman had no doubt obtained much of his first inspiration from Drs. Caverly and Holton and their associates on the State Board of Health, but he had worked out and demonstrated the practical value of health and life in a way that gave me much to think over, as no doubt has been the case with every medical man who comes in touch with his progressive methods. Other instances like this, only a little less conspicuous, might be cited in abundance.

The lack of medical organization, in the sense in which we understand it, and for which I am striving, was as evident as it was unaccountable. Personally and collectively the profession here is of the highest grade and composed of the most cultivated men with whom I have ever come in contact, and I have never found any more warm-hearted and approachable. Their leaders are not better than the leaders of the West and South, but they have a far smaller percentage of low-grade men than are seen elsewhere. This grows out of the facts that it is an older civilization than any other in this country that escaped the ravages of the civil war, that it has more wealth,

and better general education, and especially that it never had the multiplication of medical schools and the preponderance of low-grade, cheap schools which have so cursed the West and South until recent years, and which still exist in some sections. Though the individual standard is so high, though the work in the state societies and boards is in the hands of men whose abilities are recognized everywhere, and though the latter have accomplished so much in many lines, I found but one society which meets as often as once a month, most of them meeting quarterly or semiannually, and often with but half or two-thirds of the eligible physicians in the membership. In one of the most important cities in Vermont, one of great historic interest and cultivation, and with a large medical population, the county society meets once a year, when they can get a quorum, which they had not had for two years. In New Hampshire, probably by an oversight, membership in the state society may be retained without joining the county society, a mistake which was made in several other states early in the reorganization movement, and only remedied after it had produced inevitable confusion and discord. The main difficulty seemed to be that even the leaders of the profession had not caught the spirit and purpose of organization, with county societies and weekly or semiweekly meetings and postgraduate studies as the foundation and main factors in bringing the physicians of each community together, with the opportunity of knowing each other better and ultimately bringing about in our more or less discordant ranks the good fellowship and cooperative spirit which has always existed in the legal profession. Boards of health, medical boards, hospitals, and practical public laboratories are far more important to the people than courts, just in proportion as health and life are more important than any mere property interests, but because lawyers naturally associate with each other in their every-day work, with the breadth and good fellowship resulting therefrom, they have always had a prominence and guiding influence in public affairs, local, state and national, which we have never had, and ought not to have, until we can get together in each county and community and artificially reproduce the harmonious conditions which exist naturally in the legal profession.

The results of lack of organization were in evidence on every hand. Medical fees were surprisingly low, and especially so when the high grade of the profession and the cost of living and equipment are considered, and poverty in the rank and file of the profession exists to an extent not recognized by its leaders or the people. As is my custom, I tested this by careful inquiry in typical counties as to the percentage of physicians who own their homes and are comparatively free from debt at middle life, or who could attend their state and national associations, or go away for a postgraduate course or a vacation, without injustice to their families, and usually found it very small. Discord was as marked and unpleasant in several counties as I have ever found it elsewhere. Christian Science and similar fads flourish; a larger percentage of the cream of the practice seems to have passed out of the hands of the regular profession than in any other part of the country, and there seems no end to this drift unless our profession and especially our schools—still distinctly its least progressive element, in spite of the high character and ability of those comprising the faculties—can be aroused to the importance of occupying the field of psychotherapy, mechanotherapy, and similar therapies in such a scientific way as will leave no place for faddists and quacks. I have found no other profession more responsive to appeals for better things than that here, or more capable of doing them, and as they at once took up the postgraduate work, the plans for frequent public meetings and other progressive methods in almost every county, I shall be disappointed if most excellent results do not follow.

My thanks are due to Drs. Beecher and Sullivan, secretaries of the Vermont and New Hampshire state societies, respectively, and to the local committees having the meetings in charge at each appointment for arrangements which were so complete as to leave nothing to be desired, and to both the profession and people for a reception and for hospitality as cordial and charming as it was constant.

BISMARCK, N. D., Nov. 6, 1909.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Fourth Weekly Meeting

CHICKEN-POX, VARICELLA

ETIOLOGY: Contagiousness, age, transmission, incubation.
SYMPTOMS.
DIAGNOSIS: Differentiate from smallpox, impetigo contagiosa.

ACUTE INFECTIOUS DISEASES ACCOMPANIED AT TIMES BY ERUPTIONS

TYPHOID FEVER: Characteristic rash. Erythema, urticaria, herpes, sudamina, desquamation after typhoid.
TYPHUS FEVER: Characteristic petechial eruption.
INFLUENZA: Erythema, urticaria, herpes, sudamina.
DENGUE: Primary and secondary exanthemata.
MALARIA: Herpes, erythema, urticaria, purpura, pigmentation.
EPIDEMIC CEREBROSPINAL MENINGITIS: Characteristic petechial rash, herpes.
RHEUMATIC FEVER: Sudamina, erythema purpura, erythema nodosum.
SERUM ERUPTIONS: Frequency. Date of appearance. Character of eruption, urticarial, erythematous, vesicular, petechial. Distribution of rash.

Monthly Meeting

Differential Diagnosis of Smallpox.
Bacteriology of Scarlet Fever, of Smallpox.
Prevention of the Spread of the Exanthemata: Vaccination and Quarantine; Treatment of the Patient; Disinfection.

Society Proceedings

COMING MEETINGS

American Physiological Society, Boston, December 28-30.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21

AMERICAN PUBLIC HEALTH ASSOCIATION

Thirty-seventh Annual Meeting, held at Richmond, Va., Oct. 19-22, 1909

The President, DR. GARDNER T. SWARTS, Providence, R. I., in the Chair

The officers elected were given in THE JOURNAL, Nov. 6, 1909, p. 1573.

Second Decennial Revision of International Classification of Causes of Death

DR. CRESSY L. WILBUR, Washington, D. C.: The second decennial revision of International Classification of Causes of Death is the most important event that has occurred affecting vital statistics during the past year, and the possibility of twenty-three nations joining in this revision reflects much credit on the American Public Health Association. We are at the beginning of a great undertaking, namely, the preparation of a national nomenclature of diseases and causes of death. I believe that the most important practical measure which can come up for consideration next year will be the preparation of a series of uniform statistical tables relating to births, stillbirths, deaths, sickness, marriages, and divorces for use in the federal, state and municipal reports and bulletins. It has been largely a matter of speculation to know whether the figures taken from different reports were comparable or not. I would propose to the officers of the association and also members of the council of the section on vital statistics that they cooperate by the appointment of special committees, whose work can be aided by the Bureau of the Census in the preparation of uniform tables to be used in registration reports.

A complete agreement was had as to the form of questions for the cause of death. The note on the face of the blank is as follows: "State the disease causing death, or in deaths from violent causes, state first the means of injury; second, whether accidental, suicidal or homicidal." As to the changes from the previous classification, I have been notified that

Census Bulletin No. 104 has been printed and two copies have been sent to me. This contains the title of the classification, and each title which has not been changed or modified from the former series is noted by an asterisk.

Management of Milk-Borne Outbreaks of Typhoid

DR. C. V. CHAPIN, Providence, R. I.: An outbreak of typhoid fever occurred among the customers of a certain dairy in Providence. The only evidence that the milk supply is the cause of typhoid fever is in the excess of patients among the persons supplied. Out of 600 dealers in Providence, 155 have had one or more cases of typhoid fever during the last four years. In a study of sixteen outbreaks the distribution of the cases in point of time suggested that the infection was not continuous, but depending on a single distribution of the milk. As shown by Davies, Craig, and others, carriers cause infection only in an irregular and intermittent manner. The occurrence of two or three cases in a route of from 100 to 1,000 families within a week requires careful investigation. When the milk supply is found to be defective, and the source not determined, it should be shut off or Pasteurized, and when typhoid is found among those who handle the milk the patient should be removed from all contact with it. Precautionary measures should be carried out for three or four months from the beginning of the last case.

Campaign Against Yellow Fever on the Isthmus of Tehuantepec

DR. FRANCISCO VALENZUELA, Mexico City: The importance of the international traffic across the Isthmus of Panama has brought to that territory a number of nonimmunes, which has led to a great increase in the number of victims. The campaign according to the doctrines of Finlay was organized under Dr. Garcia at the city of Tehuantepec in May, 1904, and subsequently extended to the whole of the isthmus. The excellent results obtained are a matter of congratulation to all. The passenger traffic is under the charge of sanitary agents on board the cars of the Tehuantepec Railway. When a passenger is found to be ill the agent investigates the case, taking into consideration the sanitary condition of the country from which the sick person comes. A report is forwarded to the sick man's destination as well as given to the agent on the train with which the passenger desires to connect. This traveling agent collects all the news possible, thus enabling the chief of the service to receive daily and timely reports of all cases of an alarming character. Isolation of the sick, destruction of the mosquitos by fumigation and the covering of ponds and swamps with oil to destroy the larvæ are the three principal factors in suppressing yellow fever.

Scope and Value of Lectures

DR. HERBERT D. PEASE, New York City: Our form of government places the responsibility of government on the citizens as a whole. Never in our history has the public been more alive to the details of administration than at present. In my opinion, we may say that the cardinal principles in educational work in hygiene are as follows: A simpler statement of the known, the unknown and the debatable. The manner and method of expression must be secondary but they are nevertheless of vital importance for success. The speaker must insist on getting the audience and then he must hold them or he is inefficient. Without money the task is greater, but is by no means hopeless. In the pioneer work against tuberculosis those who have had the least money have made greatest progress because lack of means has necessitated more volunteers. To be assured of an audience one must advertise and continue to advertise by special letters, handbills and multiple letters, and even newspaper advertisements. In advertising the subject of a lecture should at all times receive the greatest emphasis; then follow with the names of the speakers, allowing the time and place to come after this. Every epidemic should be used as an opening gun in the campaign against that particular disease. The larger advertisements should be put out first and later followed with the cards, multiple letters, etc. First should be presented in the lecture the problems already solved, next those not entirely solved, and third topics about which there is controversy. Pictures or lantern slides should be used in effective lectures on certain subjects. These slides may be interspersed with moving picture slides, which adds a certain amount of interest to the program.

(To be continued)

UTAH STATE MEDICAL ASSOCIATION

Fifteenth Annual Meeting, held at Ogden, Sept. 21-22, 1909

(Concluded from page 1679)

Mistakes in Tabes Dorsalis

DR. W. BROWN EWING, Salt Lake City: At the outset I must disclaim any intention of finding fault with the surgeons or the specialists in any line of medicine, but insist that extreme care should be taken in making the initial examination of the patient, so as to avoid errors. This disease occurs between the ages of 30 and 50. The classic symptoms should be well-known and easily lead us to a diagnosis in typical cases, but a number of unusual symptoms occur in some cases. There is liability of confounding the various crises of tabes dorsalis with gastric ulcer, diseases of the throat and rheumatic complaints. Often the early symptoms of the disease are referable to the bladder, such as cystitis. The attention of the surgeon should be called to tabetic joints, which may closely resemble various surgical conditions. I have long had a settled conviction that there is great danger in the over-treatment with mercury in patients giving a syphilitic history, and there is liability of spinal disease following excessive use of this drug, the symptoms of which are mistaken for the symptoms of tabes. A masterful inactivity is often the best treatment. As a rule, it is unwise to operate on tabetic joints, since the trophic changes are such that good results cannot be expected.

DISCUSSION

DR. P. E. JONES, Salt Lake City: There is scarcely any other disease of the spinal cord whose diagnosis can in most cases be made with such uniform certainty as tabes dorsalis, and yet it is a notable fact that this disease is more frequently mistaken for various local disorders than perhaps any other. I have seen a diagnosis of gastric ulcer, or of appendicitis, made and the patient sent to the operating room with no visceral disease present at all. I have seen patients with painful joints and extremities kept on the salicylates for weeks under the mistaken diagnosis of rheumatism. I have seen patients with irritable bladder and disturbances of micturition treated for a local trouble when the seat of the disease was in the cord. The essential point is to think at once of the possibility of tabes and look for the distinctive objective symptoms, the principal ones being absence of tendon reflexes and immobile pupils. When the full ataxic stage of the disease has been reached, even "he who runs may read." Dr. Ewing calls attention to the possible ill-effects of the long-continued use of mercury. I have been long convinced of the ill effects of this potent but toxic drug.

DR. FREDERICK CLIFT, Provo: I believe that the early symptoms of tabes are often overlooked and that many a patient goes on for years under treatment for some other ailment until the disease is so far advanced that little, if anything, can be done to arrest its progress or mitigate its effects. Mercury has its indications, but I, too, am inclined to think that great harm may result from its prolonged use in this disease.

DR. A. C. BEHLE, Salt Lake City: I recall one case of tabes dorsalis in which a diagnosis of gastric ulcer with stenosis was made. The diagnosis was made by a general practitioner but the patient was referred to a prominent surgeon and the diagnosis was accepted without further examination. Gastro-enterostomy was performed for the relief of the condition, and a secondary operation for "vicious circle." The patient remained in the hospital for thirteen weeks afterward, but still continued to suffer distress in the region of the stomach and had other gastric symptoms. On seeing the case I was satisfied that the patient was suffering from tabes, but in order to verify my conclusion I sent him to Dr. Ewing for a diagnosis, requesting the man to say nothing regarding the history of the operations he had undergone. Dr. Ewing promptly made a diagnosis of tabes and gave an unfavorable prognosis. While we may recognize the disease as incurable, I think that

we should give our attention to cystitis and urethral irritation, for these patients want relief from these distressing symptoms of the disease. The picture of mental dejection we so often see will change to a relatively peaceful state of mind if these troublesome symptoms are given proper attention, for when we ignore these ailments it tends to encourage our patients to seek the advice of charlatans and the various mental healing sects.

DR. S. L. RICHARDS, Salt Lake City: A man was sent to me from the southern part of the state. While branding cattle he suddenly felt a peculiar sensation in his lower extremities with decided weakness. In a short time he was unable to use his legs. A diagnosis of hemorrhage of the cord was made. I began to get shaky about my diagnosis when I took him to a specialist who expressed the opinion that the patient had all the cardinal symptoms of tabes dorsalis. The patient was sent back home with an unfavorable prognosis. Four months later I learned that he had entirely recovered and is now perfectly well. The sudden mode of onset made me think of hemorrhage of the cord rather than tabes, for the latter comes on gradually, whereas in this case the paralysis developed within ten days from the onset of the symptoms.

DR. G. ROBINSON, Provo: I have seen this disease confused with multiple neuritis. Recently a patient came to me with a diagnosis of tabes, but the history of the case showed it to be one of multiple neuritis of alcoholic origin. No examination was made of the reflexes to determine the presence or absence of the reflexes. This should not be overlooked. The Argyll-Robertson pupil is characteristic of tabes. An unfavorable prognosis was given, yet the patient has continued to improve. Wrist-drop and foot-drop, which were present when I first saw the patient, have practically disappeared, and the only symptom present of tabes is absence of the knee-jerk, which is not a symptom of unvarying importance as it may occur in healthy individuals. The disease is often confused with anterior poliomyelitis. We should exhaust every means at our command in making a diagnosis, but we should not rely too much on any one or two symptoms, as we may be misled.

DR. C. F. OSGOOD, Ogden: Does Dr. Ewing know of any invariable index for determining the time when mercury should be suspended in any given case? How are we to know when enough has been given and more would work mischief?

DR. W. BROWN EWING, Salt Lake City: My plea is for more care in the making of the diagnosis. The discussion emphasizes my experience. I never saw a case of wrist-drop in tabes. One may find deformities of the foot and relaxation of the muscles and tendons around the joints, with a tendency to club-foot, but I never saw a case of true wrist-drop or foot-drop in this disease. I confess that I do not know when to discontinue the use of mercury; that is, I do not always know how far to push the drug. In the treatment of the third stage of syphilis I have used antisyphilitic treatment of the most intense character and pushed it to the limit, but I have never yet gone over eight days in the use of mercury without producing constitutional effects of the drug.

New Observations on Spinal Anesthesia

DR. A. W. MORTON, San Francisco: The technic is that which I have employed since 1900. My experience with spinal anesthesia covers 4,000 cases. I have demonstrated the method that I use in producing spinal anesthesia in all the principal cities in this country, and in many foreign medical centers. Tropococain is prepared in doses of 1 grain each, which is sterilized by exposing it to a temperature of 300° F., dry heat, for fifteen minutes. The sterilized drug is placed in small glass tubes, and closed by fusing the end of the tube. The tube may be closed with a cork dipped into sterilized paraffin. The needle used is of steel wire No. 9 gage, 3½ inches long, with a short bevel, and is so made that it can be readily attached to an ordinary Luer glass syringe. As to the technic, the needle is introduced at a point between the third and fourth lumber spaces, in the median line, and is pressed steadily through the tissues into the spinal canal. The cerebrospinal fluid escapes through the lumen of the needle and flows into the barrel of the syringe. Diminished resistance, after the needle has been inserted the proper distance, indicates that the spinal canal has been reached. The syringe has the dose of tropococain already in it, with the piston closed. The syringe is then attached to the needle and the piston is slowly withdrawn; as this is done, the cerebrospinal fluid will pass into the barrel of the syringe, dissolvign the tropococain in the cerebrospinal fluid, which is immediately returned to the subarachnoid space by pressing the piston in. Within 10 minutes, with the maximum dose of tropococain (1½ grains), analgesia extends all over the body. When it is desired to produce analgesia in the upper part of the body, a syringe of 20 c.c. capacity is used, the required amount of cerebrospinal fluid drawn off into the syringe and, after the solution of the drug is effected, returned to the spinal canal as already described. The tropococain dissolves more quickly if the barrel of the syringe is rotated from side to side but without withdrawing the needle. As a rule, analgesia lasts from an hour and a half to two hours, and is so deep that operations may be undertaken with the satisfaction of knowing that the sense of pain is totally abolished. If for any reason the operation is to be prolonged beyond the usual time, the dose may be repeated according to the technic already described. Tropococain has a local action, passing directly into the nerves at the spinal centers, and it acts on the body as high as it passes into the cerebrospinal fluid. Very little enters the circulation proper and it is practically free from toxic effects. It paralyzes the nerve cells that carry the sensation of pain. It has little disturbing effect on the tactile, heat or motor cells of the body. It is especially indicated in organic disease of the heart, lungs, or kidneys, where a general anesthetic is contraindicated. It prevents shock. Its use is indicated in the aged. There is practically no disturbance of the gastrointestinal tract. It is indicated in operations on the tongue and superior maxilla; in fact, any operation about the buccal cavity where there is danger of pus and blood entering the larynx. It is a satisfactory anesthetic in removal of goiters. In obstetric work it produces complete relaxation of the cervix and perineum, and does not interfere with uterine contractions; for this reason it prevents lacerations and hastens labor, which is painless. The after-effects are not alarming. If the heart's action becomes inhibited under its influence, the administration of the proper dose of adrenalin, or 1/100 of a grain of atropin is indicated. Vomiting occurs in about 3 per cent. of all cases and usually occurs about ten minutes after the injection is made. Headache occurs but is rare. It is relieved by having the patient maintain the reclining position with an ice-cap applied to the head.

Value of Early Diagnosis in the Treatment of Epidemic Cerebrospinal Meningitis

DR. R. C. SMEDLEY, Salt Lake City: Through the efforts of Flexner the profession has been led to a better understanding of the pathology of this disease; he has placed within our reach a therapeutic measure of unquestionable efficacy. An early and positive diagnosis of this disease should be made by lumbar puncture. If the cerebrospinal fluid withdrawn is cloudy, give the first full dose of serum at once without waiting for the bacterial examination, although further doses are only to be given if the *Diplococcus intercellularis* is found in the cerebrospinal fluid. The serum is of no value in other types of meningitis. At every dose give as much as possible—the amount given, however, should equal the amount of cerebrospinal fluid withdrawn. Repeat the dose every twenty-four hours or at shorter intervals; repeat daily till four full doses have been given. In all cases, if diplococci persist after four full doses, continue injections until they disappear. After that the treatment depends on the requirements of the case. A medium-sized aspirating needle is introduced into the spinal canal between the third and fourth lumbar vertebræ. If the fluid withdrawn is clear, it does not necessarily rule out the existence of epidemic cerebrospinal meningitis. The addition of one-third alcohol (95 per cent.) will cause marked turbidity if meningitis is present. If the fluid is turbid place it on ice for a short time to favor clot formation or centrifuge and examine with a microscope. The cover-glass preparation is stained with aqueous saturated solution of methylene blue. If more than one lymphocyte or polynuclear leucocyte is found in the field it indicates leuco-

cytosis, which points to the probability of cerebrospinal meningitis. In the early stage of the disease the *Diplococcus intercellularis* is found in varying numbers, mainly free; after the first injection of the serum these micro-organisms partially disappear, and after subsequent injections tend to disappear entirely. The serum must be brought into direct contact with the spinal fluid. It is of practically no value given subcutaneously. Improvement occurs as a rule after the first injection. The temperature falls and some cases show a tendency to terminate by crisis. The mind clears up, but rigidity of the spine persists for some time. Flexner's serum reduces the mortality of this disease to a figure somewhere between 10 and 25 per cent., as compared with from 57 to 91 per cent. without the serum.

DISCUSSION

DR. W. R. TYNDALE, Salt Lake City: The value of an early diagnosis must be apparent to every one. We should always have the symptoms of this disease in mind, since sporadic cases are easily overlooked when epidemics do not exist. The early symptoms of all acute, infectious diseases are very much the same, but high fever, vomiting and retraction of the head should make us be on the alert, for if the serum treatment of this disease may be relied on to accomplish anything it should be administered early in the disease and before serious destructive changes have taken place.

DR. W. R. CALDERWOOD, Salt Lake City: I believe that the mortality of this disease can be materially reduced by the early and intelligent use of this serum. Too much stress cannot be laid on making an early diagnosis. Flexner's serum seems to be the remedy that promises the best results.

DR. RALPH T. RICHARDS, Salt Lake City: Dr. Smedley suggests that the needle employed for aspirating the suspected cerebrospinal fluid be introduced between the third and fourth lumbar vertebræ. You will often fail to obtain the fluid in this location, but if the needle is inserted between the second and third lumbar vertebræ, you will seldom fail to find it.

DR. J. T. SHARP, Salt Lake City: In 1906, I saw many cases of this disease and came to the conclusion that the mortality of epidemic cerebrospinal meningitis is very high. In some cases the early symptoms are difficult to recognize; in some the nervous symptoms are of the most violent character. The point I desire to make is this: I was struck by the pathologic picture disclosed by the autopsy. I had the privilege of doing several of these autopsies, and as I took the skull-cap off I was impressed with the utter helplessness of trying to combat a disease so destructive in its consequences —pus, blood and leucocytes were everywhere, the membranes were congested, adherent and oozing with pus. If Flexner's serum is really curative, and I have no doubt it is, it should rank as one of the great discoveries, and if there is just one horse that is generating this serum, my earnest hope is that he will not die.

DR. PHILO E. JONES, Salt Lake City: Does Dr. Smedley know of any ill effects that are likely to follow the repeated introduction of the needle into the spinal canal? I have read that these subdural injections are not wholly devoid of danger.

DR. R. C. SMEDLEY: The best place to introduce the needle into the spinal canal is a matter of choice. I am sure that the fluid can be obtained at a point between the third and fourth lumbar vertebræ. Some prefer the second interspace. In view of the grave pathologic lesions found beneath the skull-cap, it is important that the serum be brought into direct contact with the subdural injection. I have not had my attention drawn to any ill effects following the injection of the serum, even when these injections are repeated. But I believe that cases have been reported of sudden collapse following these spinal injections. While in Boston I saw several patients who were treated as long as six weeks with the serum, daily injections being made or on alternate days, and with no bad results. Now and then medical literature reports a fatality following the use of the serum. Possibly the position of the patient may have something to do with such accidents. I believe that faulty technic may throw suspicion on some remedial measures that are otherwise safe and efficient.

Degenerative Changes in the Spinal Cord in Pernicious Anemia

DR. J. R. MORRELL, Ogden: Lack of uniformity in the symptoms of pernicious anemia suggests an underlying infecting agent, having a marked hemolytic power whose toxins cause the gastric and intestinal disturbances and degenerative changes in the cardiac musculature and in the central nervous system. The pathologic changes in the spinal cord bear no direct proportional value to the intensity of the clinical symptoms. In well-marked cases the degenerated areas of the cord can be seen with the naked eye, appearing as darker areas in the white substance of the cord. In the seven cases studied and made the subject of this report, the regions of the cord involved were not constant, but varied considerably. In five out of six cases of pernicious anemia, pathologic changes in the cord were demonstrable, and in four of these they were quite extensive. The structural changes were most marked in the cervical region. In two cases there was considerable ataxia during life, and in one, associated for a time with marked spasticity. All cases showed at some time more or less nervous involvement.

DISCUSSION

DR. W. BROWN EWING, Salt Lake City: In the description of the pathologic findings of the cord in pernicious anemia there seems to be a striking similarity to those found present in syringomyelia. The regions of the cord involved, as illustrated by Dr. Morrell, are certainly much like the findings in syringomyelia, and some of the symptoms are likewise very similar. The involvement of the cord is considerably more extensive than I had supposed a post-mortem examination would disclose.

DR. J. R. MORRELL: I did not mention that changes in the cord may occur independently of pernicious anemia. What we have grown to regard as typical lesions may exist without any appreciable changes in the blood.

Puerperal Fever

DR. E. I. RICH, Ogden: Puerperal fever is an infection carried to the parturient woman by an infected agent. It is generally a mixed infection. The streptococcus is most frequently found and is present in nearly all serious and fatal cases. The gonococcus comes next. The staphylococcus and colon bacillus and a number of putrefactive anaerobic bacilli are frequently found, and in rare cases the Klebs-Loeffler bacillus and the pneumococcus. The recently emptied uterus presents a particularly favorable field for the invasion and growth of micro-organisms. As to the sources of infection, bacteria must either be present in the passages to the uterus or must be introduced from without. The gonococcus is the only pyogenic organism that can live and thrive in the normal vaginal secretion of a pregnant woman. The infecting organism invades the walls of the uterus along the lymphatics or veins and is thus conveyed to neighboring tissues and organs. In making a diagnosis, too many jump at the conclusion that fever following childbirth means infection. The entire body should be carefully examined and a diagnosis arrived at by a process of exclusion, after first thoroughly unloading the bowels. In the last 300 deliveries I have not once used a douche because of fever, and in only four or five cases in which lacerations were present. Of course, if the uterus is filled with infected blood clots or putrid material, after careful cleaning out is done with the hand or a large, dull curette, there is no valid objection to irrigation. In puerperal septicemia the uterus must be cleared of all necrotic and putrefactive material without disturbing the underlying protective wall of leucocytes. In virulent streptococcus cases Nature does not have time to form a protective wall of leucocytes. In these cases we must rely chiefly on constitutional treatment, as the poison is beyond our reach. One thorough irrigation with hot normal salt solution (3 gallons), followed by at least ½ gallon of 50 per cent. alcohol and sterile hot water, with one teaspoonful of iodin to a quart of this solution may be employed. Hysterectomy in acute puerperal sepsis is now generally condemned.

Nose and Throat Conditions of Interest to the General Practitioner

DR. R. R. HAMPTON, Salt Lake City: The location of the tonsil is such that bacteria entering the oronasal cavity, from the day of birth, are directed toward the tonsillar crypts, which act as receptacles or culture tubes in which bacteria of every variety, entering the fauces, may be cultivated. The mucus in the crypts serves as a culture medium. The glands which furnish this mucus are located just outside the tonsillar structure. These peritonsillar mucous glands are most numerous at the base of the tonsil near the bottom of the crypts, which explains how tonsillar abscesses at times follow tonsillitis. Bacteria multiplying in the crypts, elaborate vaccines which are taken into the tonsil by the lymph currents, and thus entering the system they are absorbed. These toxins cause the tissue cells to generate opsonins which prepare the pyogenic bacteria for phagocytosis. The salivary corpuscles now seize the bacteria, and together they are pressed out into the oral cavity in the act of swallowing. In swallowing, the superior constrictor muscles compress the peritonsillar glands and force the mucus into the crypts, and this same force or pressure forces the contents of the crypts into the orval cavity. The tonsil, with its crypts, makes it possible for the system gradually to absorb the vaccines from the crypts, and thus produce immunity without systemic toxemia. The tonsil is most needed during the first three years of life; it probably functionates until puberty or later. Tonsillar disease is often insidious and goes unrecognized until the damage to the neighboring organs, and often to the general health of the patient, is almost irreparable. The diseased tonsil is more or less hypertrophied in all parts, and while not obstructive as a rule, they are sometimes very large, extending upward and backward often as far as the Eustachian tube on which they may press, interfering with the air passage and blood circulation of the ear and causing disturbances of function. The drainage of these diseased tonsils is extremely faulty, and the result is that pent up secretions become foul smelling and exceedingly irritating. Whatever the function of the tonsil is we do not know, but we do know that a diseased tonsil is a menace to the general health. Health is impaired by direct infection. Tuberculous glands of the neck and often pulmonary tuberculosis may be traced directly to diseased faucial tonsils. Instead of injury to the voice, the only effect of removal of the tonsils is a decided improvement in the voice. Middle ear deafness may have its origin in at least three ways: from the extension to the tympanum of inflammatory conditions in the adjacent tissues of the Eustachian tube or pharynx; to alterations in the vascular supply in that cavity; to the interference with proper and adequate ventilation of the tympanum from the Eustachian tube. Middle-ear disease may be caused by bacteria that gain entrance through the tonsils, which argues that the tonsil should be examined in middle-ear trouble. The tonsillar mass may interfere with the function of the Eustachian tube. In normal conditions this tube is patent, but not open. In deafness look for diseased tonsils and operate when they are found. Postnasal obstructions should be removed before orthodontia is attempted.

Necessity for Early Treatment of Strabismus

DR. FRED STAUFFER, Salt Lake City: It is only by early treatment that we can hope for cure in strabismus, and by cure is meant the restoration of binocular single vision. The principles involved in this paper deal chiefly with the comitant squint and do not apply to paralytic strabismus. To understand the causes of squint and its treatment it is imperative to understand the physiology and refraction of the normal eye. Donders, in his researches for the cause of squint, found that a large majority of patients with non-paralytic comitant convergent squint were hypermetropic. The squinting eye is often astigmatic, or has other defects that interfere with a clear image. While the majority of convergent squints are hypermetropic, there are many hypermetropic persons who exercise perfect binocular single vision. It remained for Claude Worth of London to fill the breach through his researches and critical study of over 2,000 cases of squint. He discovered the fusion sense of which there are several degrees of development. Convergent squints appear early in life—at the age when the child begins to pay close attention to surrounding objects, usually between the ages of one and three years. The object of treatment is to restore parallelism of the visual axes and restore binocular single vision. If one eye is permitted to squint for a considerable time it becomes amblyopic from disuse. In some cases the squint eye is congenitally amblyopic. If treatment is not commenced before the fifth or sixth year there is little hope of restoration of binocular vision. The rational thing to do is to paralyze accommodation temporarily with atropin, and after measuring the refractive error with the retinoscope, prescribe a lens for constant wear that will make the eye emmetropic. Thirty per cent. of convergent squints treated early by this method are curable. If this fails there is generally insufficient development of the fusion sense. The fusion sense can be trained by the use of some form of stereoscope, such as Worth's amblyoscope. A child who is old enough to develop a squint is old enough to wear correcting glasses. Early treatment cannot be too strongly urged, because it eliminates the necessity for operative interference, and because if treatment is long delayed it becomes impossible to restore binocular vision. Non-paralytic divergent squint comes on later in life and generally requires operation. When fusion training and correcting lenses fail, operative treatment is indicated. The age of 5 years is late enough for operative treatment, which allows ample time for other treatments. The point I desire to emphasize is the necessity for commencing treatment as soon as the child begins to squint.

Diagnostic and Therapeutic Value of the Roentgen Ray

DR. C. F. OSGOOD, Ogden: Radiology to-day occupies a prominent place in medicine and surgery. The *x*-ray is not a panacea for all ailments, but is limited in its use. For diagnostic purposes it is often indispensable, especially in determining the existence of obscure fractures or dislocations, many of which are diagnosed as sprain. The use of the *x*-ray prevents such blunders. In the diagnosis of pleural effusions and enlargement of the heart, the fluoroscope gives valuable confirmatory evidence, as the exudate is quite resistant to the ray. The line of demarcation is more marked in purulent than in serous exudates. In the treatment of pathologic conditions it is an agent of proved efficiency. Of the diseases most successfully treated by the *x*-ray, mention may be made of epithelioma, lupus, chronic eczema, tuberculous adenitis, exophthalmic goiter, and leucemia. I have successfully treated with the ray three cases of epithelioma with no recurrences, two of chronic eczema, one very old case of lupus and one of leucemia. In lupus it is preferable to the Finsen light.

Etiology of Phlegmasia Alba Dolens

DR. EUGENE H. SMITH, Ogden: This is a condition dependant on various causes and occurring as a complication or sequel to different diseases. It often indefinitely prolongs an otherwise rapid convalescence. It occurs most frequently following disturbances of circulation in the pelvis, but it also follows operative procedures in the upper abdomen. It occurs as a complication or sequel to appendicitis, yet it may develop when no operation has been undertaken. As to the frequency of its occurrence during the puerperium, statistics vary from 12 to 10,000, to 23 to 6,000. Operative intervention or other obstetrical procedures seem to play no part in its production, as it follows as frequently the clean case as the case in which trauma and infection were probable factors. Thrombosis not infrequently occurs in typhoid fever, pneumonia, tuberculosis and influenza. In its production in these conditions, debility, recumbency and infection must play a part. When the veins of the lower extremities are involved the left side is most frequently the seat of affection. Of predisposing causes, the anatomic arrangement of the iliac and femoral vessels seems to favor its occurrence. The left iliac vein is subject to pressure from distention of the sigmoid or rectum, thus favoring thrombosis of the left side by retarding the blood stream.

The venous stasis and dilated condition of the vessels in varicose veins is a local and predisposing cause, favoring the development of phlebitis and thrombosis. In other words, mechanical interference is a local predisposing factor. Hemorrhoids like varicose veins, with the added element of possible infection, share in the production of circulatory disturbances. Pathologic states of the interior of blood vessels cause the formation of thrombi, as endocardial inflammations, and lead to emboli, favoring the development of thrombosis. Of systemic conditions increased coagulability of the blood is a factor in the production of thrombosis. This is likely to occur during the puerperium because of the process of involution and the loss of blood, not to mention the normal increase of the fibrin elements in the blood which occurs in pregnancy. It would seem that the probabilities are strongly in favor of the non-infectious nature of operative cases. It is probable that a combination of several factors may bring about its occurrence without the participation of micro-organisms. Trauma is probably the most active factor in the production of many cases.

MINNESOTA STATE MEDICAL ASSOCIATION

Forty-first Annual Meeting, held at Winona, Oct. 12-14, 1909

The President, DR. CORNELIUS WILLIAMS, in the Chair

The officers elected were given in THE JOURNAL, Oct. 30, 1909, p. 1493.

President's Address: The Physician's Place in the Community

DR. CORNELIUS WILLIAMS, St. Paul: The proper position of the medical man in the community is not fully appreciated, either by the physician himself or by the lay citizen. Long years of communal isolation have bred ideas that have become convictions on the part of the public. The physician is stamped, as it were, with a kind of bar sinister. By common consent, the doctor is relegated to the doing of certain prescribed duties and the bearing of certain burdens demanded and required because of the bar sinister—and gratis. The physician, because he is a physician, is required to give freely of his time and skill whenever and wherever needed without hint of compensation. As well would it be to require of the artisan that he should build hospitals, and the dealer that he should completely furnish them, as that a physician should give gratis of his time and labor and skill by which and through which alone their conduct is possible. My proposition is that the bar sinister should be broken, that the physician should receive full and usual compensation for his work, in fact, that he should come into his own. How shall this be brought about? It cannot be done by "educating the public," because one cannot educate a class by mere reasoning and argument to do a thing contrary to established custom. I mean that all gratuitous service on the part of the physician to the public shall cease. There is properly no mystery about medicine as a science or an art, and there is no reason why the whole people should not acquire a knowledge of the fundamental truths that underlie medicine as a science and of its practice as an art, and an understanding of such art and science will make the human animal physically and intellectually superior.

This elevation of the race must come through medicine, and this is the mission of the medical profession. There are very divergent views, as to where the initial work must fall. I declare that it is only by a participation in politics that the physician may accomplish his whole mission, and that such participation is one of his highest duties. From the very nature of his position his duties place him in the rôle of police; he must suppress or regulate whatever is injurious to the peace, health, morality, general intelligence and thrift of the community and its internal safety. Isolated in the sense that there is no concert of action, the medical man is a negligible quantity, as to any influence, either for good or bad legislation, but, united into a guild of workers, the medical body would be a great power to determine the outcome of an election and to direct the measures of government.

I then propose the formation of a medical guild to comprehend every medical man in the state. The object shall be to become the highest political power in the highest sense of the word. In my opinion, the foundation of a medical guild, together with another insurance guild, would be an ideal method for the closer alliance of the medical profession for mutual protection against an enemy in any form.

In most instances in our state the judiciary is of the highest order, but there are certain rules of practice that are obsolete and injurious, particularly as pertaining to the trial of cases involving the practice of medicine and surgery. Even the judicial mind may seem to be warped by what is technically known as passion and prejudice. The medical guild would seem to be the only effective way of eliminating men of such minds and methods.

The medical guild then, if I may be permitted the expression, might be called a communal deobstruent, whose office would be to purge society of some of its evils, and to modify some of the evils of intestinal malassimilation of the body politic, to raise the opsonic index of that body, and to afford the proper and measured antitoxin required to correct a morbid condition induced by insanitary ways of living. I would expect that the propositions contained in this paper will meet the treatment usually accorded to the pioneer who breaks out of the beaten path, but I am convinced that the things suggested are practical of doing, and that their doing would be of exceeding benefit to the community, and would inaugurate a new era in medicine.

SYMPOSIUM: EPIDEMIC ANTERIOR POLIOMYELITIS

Previous Epidemics of Anterior Poliomyelitis

DR. HALDOR SNEVE, St. Paul: Over fifty epidemics of this disease have been recorded. Medin, of Stockholm, gave the first account. Later his pupil, Wickman, also of Stockholm, made the most careful study ever made of any epidemic disease, and showed that the disease is an acute infection, contagious, and may assume clinically one of numerous forms of disease heretofore regarded as distinct, such as the cerebral infantile palsy (of Strümpell), the ophthalmoplegia of Wernicke, the bulbar palsy of Duchenne, Landry's paralysis, transverse myelitis, and abortive forms. Giersvold, of Norway, has given us the same facts. We needed the masterly pathologico-anatomic studies of Harbitz and Scheel, of Norway, to give a correct insight of the nature of the disease process. They showed it to be a specific leptomeningitis, the virus starting from the pia as a base, following the blood-vessels into the whole of the cerebrospinal tract, destroying or temporarily affecting the ganglion cells, especially where the blood supply is the most rich. Geirsvold gave the only positive evidence of the nature of the virus. He found a diplococcus in the spinal fluid in twelve cases, and inoculated animals with the germ, producing paralysis and death. For the present we must accept the diplococcus described by him as the active causative agent. Entry is probably through the nose and throat.

Four-fifths of the cases occur in children under 6 years of age, the proportion of males to females being 3 to 2. Epidemics seem to follow rivers and appear mainly in the months of July, August and September. The period of incubation is from one to five days. The onset is usually sudden with meningeal symptoms, and fever in the neighborhood of 101 F. Healthy children are as liable to be attacked as the weak. The mortality is about 10 per cent. in children and 25 per cent. in adults. About four-fifths of the patients have paralysis, and 25 per cent. of these completely recover; 75 per cent. of the remainder recover partially. Abortive cases present the greatest difficulty in diagnosis as they may appear to be cases of influenza, meningitis or of polyneuritis, and we can only suspect them when occurring in the presence of an epidemic. A study in the Rockefeller Institute seems to indicate that diagnosis of this disease by a serum reaction is impossible. Lumbar puncture may reveal the Geirsvold microbe besides being a valuable therapeutic measure.

The first thing in treatment is rest; hexamethylenamin may be given in the acute stage. Antiseptic gargles and nose washes may have prophylactic value; 1/10 grain of calomel every hour, with salicylates, may be given when indicated. Dry cupping or ice bags or counter irritation may be used

over the spine. The paralyzed limbs should be supported; later strychnin may be given; in about two weeks massage, vibrations, electricity, and elastic bands or orthopedic appliances should be employed. This is not a new disease, but is even mentioned in the Bible. That Mephibosheth became lame was ascribed to carelessness of the nurse in letting him fall. Sporadic cases are with us always and occasionally an exacerbation occurs which we call epidemics.

Minnesota Outbreaks of Anterior Poliomyelitis in 1908

DR. A. S. HAMILTON, Minneapolis: Three epidemics of anterior poliomyelitis, all more or less extensive, appeared in Minnesota in 1908. At Hibbing, 16 cases were reported; at Northfield, 30; and at Barnum and Moose Lake, 45 cases. In addition there were numerous isolated cases of the disease scattered widely through the state, and in a few localities, in addition to the above, the number of cases was sufficient to constitute a limited epidemic. All epidemics came in the autumn and the cases disappeared after the onset of cold weather. Together there were probably 150 or more cases in the state; 13 deaths were reported to the State Board of Health as due to poliomyelitis. Clinically the cases were much the same as have been observed this year and also in preceding epidemics. At Barnum, however, the number of instances where more than one case occurred in the same family was very much greater than usually reported.

Discussion on Poliomyelitis

DR. DONALD B. PRITCHARD, Winona: Anterior poliomyelitis was epidemic in Winona during the past season, the first case occurring in June and the last in August. The cases were reported to Dr. Bracken who sent down Dr. Hill, and instead of 6 or 7 it was found that there were about 25 cases. Dr. Hill went into the history thoroughly and found the cases occurred in the dry and dusty season. The distribution was over a distance 2½ miles long by 1¼ miles wide. There seemed to be no connection between the cases; families in which there were from 6 to 10 young children having only one case. In one family with 2 children both had it. The cases seemed to occur in the part of the city that was not sprinkled, and we even found cases where only one side of the street was sprinkled on the unsprinkled side. It was remarkable to see how that basis held out. In view of this fact we had the streets sprinkled, beginning on the fifth of the month and on the twelfth we had the last case.

DR. E. D. KEYES, Winona: I saw about 6 cases during July, and one patient who came in about a month ago from the country. This last was a case of ascending paralysis in a girl 17 years old. The cases with one exception were isolated cases, the exception being in a family of 12 children in which 2 had the disease. The cases were scattered over the whole city and there seemed to be no connection between one case and another. It was an epidemic condition rather than contagious disease. The general behavior of the disease seemed to indicate that dust played some part in carrying the infection.

DR. F. W. BULLEN, Hibbing: During the summer of 1908 there were 15 cases of acute anterior poliomyelitis in Hibbing and vicinity, the first 2 cases occurring June 15 and July 4, and the balance during the last week in July and the first week in August. The weather was dry and dusty. In only 2 instances did 2 cases occur in the same family. Ten of the families traded at one grocery store and 2 children of members of the firm had the disease. One case was that of a young man of 24, one boy of 6, the other patients being 1 and 3 years of age; 5 were females and 10 males. The initial symptoms were those of acute gastroenteritis. Vomiting was an early symptom and diarrhea was present in nearly all cases. Temperature ranged from 101 to 104 F., continuing from 3 to 6 days. Sore throat occurred only once. Kernig's sign was present only once. Paralysis appeared on the third to the seventh day, of the flaccid type, and the paralyzed extremity was usually painful on motion only. There was only one fatal case, death being due to paralysis of respiration. No autopsy was permitted. This was thought to be a case of acute polioencephalitis complicating a poliomyelitis, but may have been an infantile hemiplegia. Another patient showed convergent strabismus on the fifth day with no other paralysis. This patient completely recovered in 9 months. The case of the young man of 24 somewhat resembled Landry's paralysis. He also had urinary retention for several days. The rest of the cases were of the ordinary spinal type; 2 were of the abortive type with complete recovery in less than 3 months. Of the 15 patients one died, 6 have completely recovered, one has been lost sight of, and 7 still show more or less atrophy and paralysis. There has been only one case this summer, a boy of 2½ years, with paralysis of the lower extremity only.

DR. H. W. HILL, Minneapolis (Minnesota State Board of Health): There were at least 150 cases of anterior poliomyelitis in the state last year. The distribution of the cases was very wide. The number given represents perhaps only one-fourth of all the cases, since many cases were not recognized and many were not reported. We do not know how many cases we had, but those of the abortive type were legion. This year the cases were much better reported. I was in one locality where fifty cases had been reported, and I was able to satisfy myself that one out of four was probably poliomyelitis. An interesting feature is the two types of disease. One which we call the Scandinavian type is accompanied by sore throat, but in the type we have here in Minnesota the sore throat is not present. In regard to nationality, in Winona we found that a great many Poles had the disease, while in other localities we found the prevalent type existing in families living under insanitary conditions and with poor nutrition. We have not been able to find any evidence that the disease is infectious or contagious. While a few older people were attacked, it may safely be said that the disease is confined to children. In studying it epidemically we have gone into everything we could think of. We went into the question of eating dirt, and of eating vegetables raw out of the garden. We could not find through the state entomologist that any particular insect was more prevalent than in former years; we found weeds very abundant, but in following up that lead it came to a blind end. We were unable to find anything in that way except the dust. We found in all cases where the dust had been the greatest it was of the character that carried horse manure. Another interesting feature is that Dr. C. S. Shore, of Lake City, a veterinary surgeon, reports a disease among colts and young horses almost identical with anterior poliomyelitis.

DR. H. E. ROBERTSON, University of Minnesota: I performed three autopsies this fall on undoubted cases of poliomyelitis:

Case 1 was that of a boy 2½ years old. He was ill 8 days. After the usual febrile disturbance there was paralysis of both arms and legs, on the right side first, and finally of the bulbar centers. Autopsy was limited to spinal cord. On opening the dura, marked excess of clear cerebrospinal fluid escaped. On section of cord, in upper portion of cervical enlargement was a pin-head-sized hemorrhagic area located in the right anterior horn of the gray matter. The area was soft and bulged on gentle pressure. It extended up and down the cord for a distance of about 5 mm. Cultures from the cerebrospinal fluid showed the presence of a Gram-positive diplococcus, non-pathogenic to guinea-pigs or rabbits.

Case 2 was that of a boy of 9, ill about 60 hours. Complete autopsy was performed and examination of organs was negative except for swelling of lymphoid tissue noted in spleen, lymph nodes, thymus and follicles of intestines. Brain and cord surfaces were deeply congested and clear cerebrospinal fluid was present in excess. Transverse section of cord showed small hemorrhagic foci in the gray matter of the anterior horns, the highest in the right side of the medulla, varying in location from side to side as far down as lower thoracic portion. Cultures from the cerebrospinal fluid gave a Gram-positive diplococcus.

Case 3 was that of a girl aged 3, ill 14 days with paralysis of arms and legs and death from respiratory failure. Aside from congestion and softening of spleen and congestion of pia-arachnoid, the gross lesions were confined to the pons and cord. Hemorrhages were present in the anterior horns as far up as the peduncles of the cerebrum. Only the lower thoracic cord was free from hemorrhages. Cultures from this case were made by Dr. Chesley of the State Board of Health. A

Gram-positive diplococcus was obtained from spleen, heart's blood, lateral ventricle of the brain, cerebrospinal fluid, throat and middle ear. This organism resembles in morphology and cultural characters the coccus described by Giersvold and also by Fox.

Microscopically the lesions in every case have resembled each other: (1) Congestion of vessels, especially those leading to anterior horns. (2) Perivascular infiltration of polymorphonuclear and mononuclear cells, the latter being both lymphoid and endothelioid in type. (3) Infiltration of pia and nerves running from anterior horns. (4) Necrosis of gray matter of anterior horns, especially the ganglion cells, with diffuse infiltration of polymorphonuclear and mononuclear cells. (5) Hemorrhages into gray matter of anterior horns. (6) Thrombosis of vessels in region of hemorrhages (seen only in Case 3). (7) Dilated lymph channels. (8) Occasional infiltration along lines of vessels extending into base of brain and also posterior horns of cord.

DR. A. J. CHESLEY, Minneapolis: The Minnesota State Board of Health laboratory has received for examination specimens from 24 cases of poliomyelitis. Spinal fluids were sent in from 16 cases, but 5 showing no growth and 4 being badly contaminated, only 7 were suitable for investigation. From 6 a Gram-positive diplococcus, corresponding in every detail to the description of Giersvold's diplococcus given by Fox, was obtained in pure culture and further experimentation is now in progress. Hearty cooperation of physicians is urged in obtaining nose and throat cultures, spinal fluid, blood, etc., for examination from every case, and in securing permission for post-mortem examinations to be done by competent pathologists as soon after death as possible, that every facility may be had in the effort to determine the cause of this disease, and a specific remedy for its treatment or prevention.

DR. W. A. JONES, Minneapolis: Eight years ago I saw about 12 cases of general paralysis which agreed closely with the epidemic of the present time. I called them simple neuritis. I believe, as has been suggested, that we are laboring under a misnomer in designating all these cases as anterior poliomyelitis, but, on the other hand, I do not agree with the suggestion that we ought to call everything of this nature anterior poliomyelitis.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909
(Continued from page 1683)

The Venereal Peril

LIEUT.-COL. HENRY I. RAYMOND, U. S. A., based his paper on "The Eradication of Specific Urethritis from the Army by means of the 'K' package, Reenforced by Military Law and Discipline," on the following postulates:

Specific urethritis is the cause of more non-effectiveness in the army than any other one disease, the venereal diseases alone being responsible for a non-effectiveness equal to the loss of the services of an entire regiment for every day in the year, as shown by Col. John V. R. Hoff, U. S. Army, in his paper on "The Venereal Peril" (read by title).

Soldiers will expose themselves to venereal infection as long as human nature remains unsanctified. Moral suasion alone is inadequate to effect the desired revolution.

To effect escape from the physical ills of a sinful practice is a legitimate end of sanitary endeavor. It is not encouraging vice. The young man who avoids promiscuous intercourse from principle will not be misled through proffered immunity from infection.

A rational method of prophylaxis or prevention of specific urethritis has been devised, its general adoption in the army requiring the enactment and enforcement of a new military regulation making the contraction of gonorrhea a military offense.

There were issued to 576 individual enlisted men out of a garrison of 1,800 who applied for them at Fort Sam Houston, Texas, "K" packages. Of this 576, all of whom supposedly exposed themselves to the possibility of infection, in no case in which the remedy was intelligently applied, did it fail in efficacy. That portion of the garrison which did not make use of the package presented 66 cases of gonorrhea.

Those who did not use the "K" package and who contracted gonorrhea were wilful and neglectful, those who used the package and contracted gonorrhea were indifferent and careless; both classes were proper subjects for military discipline.

When there was no rational method of preventing the disease the contracting of gonorrhea was properly considered not a military offense, but now it may be viewed from a different standpoint.

So strong is the evidence that the "K" package, intelligently applied, will prevent infection, that no exemption should be made, but the unfortunate victim who may claim to have made use of the preventive should be held to have been negligent in its application if not untruthful in his allegation.

Weekly inspections should be made for venereal disease, and any attempt at concealment should be regarded as an aggravating circumstance before the summary court.

The weakest link in the chain of prevention of venereal disease in the army is the lack of a feeling of personal accountability on the part of the enlisted man, fostered by a sense of security from punishment for physical disablement through his own misconduct or through his indifference to rational preventive measures intended to secure his immunity from the ill consequences of his immoral acts.

Disease and Battle Casualty

MAJOR LOUIS LIVINGSTON SEAMAN, U. S. V., stated that in most of the great wars of history three-fourths of the mortality has resulted from disease and only one-fourth from battle casualty. Most of this loss is preventable and constitutes a crime against humanity and patriotism. Service in six campaigns has convinced Major Seaman of the utter inadequacy of the medical departments of nations, with one notable exception. When it is remembered that this department combats the enemy that kills 80 out of every 100 that die in war, and that all the other machinery of the army kills but 20 per cent., and also that the medical department with its small numbers and limited authority, has to fight the invalidism that sometimes renders an army ineffective before the enemy, one is forced to the conclusion that the situation demands medical reform.

In order to focus the attention of military sanitarians on this subject, Major Seaman has offered a prize of $500, open to the world, in any language, for the best essay on the following subject: "What Should Be the Organization and Status of the Medical Department of Any Army, in Order that its Sanitary and Hygienic Conditions May be Maintained at their Highest Efficiency, so that in the Emergency of Battle, its Units May Best Respond to the Call of its Commanders?" The award of this prize will be made by the Executive Committee of the Seventeenth International Medical Congress, which meets in London, in 1912.

Care of Wounded in Ships

MEDICAL INSPECTOR BUNZO TOMATSURI, Imperial Japanese Army, believed that all surgical interference should be aseptic. Space should be provided in ships of war for original surgery, with possibility of uninterrupted communication by means of elevators and ladders. The greatest care should be taken of the wounded after first aid has been rendered. The provision for transportation and subsistence of the wounded still leaves much to be desired. He recommended the use of sandbag splints for immobilization.

Organization of Naval Medical Department

MEDICAL INSPECTOR LLOYD W. CURTIS, U. S. N., discussed the organization of the medical department and the sanitary service of the fleet under present conditions, and described the organization which in his opinion would best meet the requirements of the fleet in view of further expansion, and render the most efficient service both in peace and war. He gave an outline of the duties of medical officers, the medical personnel of the fleet and their duties, the relations of the medical department to line officers. The office of fleet surgeon at present answers no particular purpose.

Best Training for Medical Officers

SURGEON CHARLES F. STOKES, U. S. N., who considered the question of what should constitute the best training for medical officers, the hospital corps and the ambulance parties of the fleet for sanitary service and as aid to the wounded in time of peace and war, insisted on previous service in civil hospitals and a rigid and exacting examination. He finally believed in the unification of action through the medium of postgraduate instruction in the Naval Medical School. The keynote of instruction in the school should be the cultivation of the senses, and independence of the laboratory and the *x*-ray. The association of naval medical officers with civil practitioners is inspiring. The hospital corps should be intelligent men. The advent of female nurses has made a great change and a signal advance in naval hospital conditions. Medical officers should instruct line officers in first aid work, and the line officers in their turn should instruct the men.

MEDICAL DIRECTOR JOHN C. WISE, U. S. N., believed in the value of the great metropolitan schools for medical study. Deficiency in preliminary education is the greatest evil in the medical profession to-day. He deprecated the amount of time spent in the laboratory, as graver questions than those of bacteriology are not given so much attention as they deserve.

MEDICAL INSPECTOR HENRY G. BEYER, U. S. N., gave his opinions as to the best training for medical officers intended for the positions of fleet and squadron surgeons, and of the principles which should determine their selection for the position, and also took up the duties and responsibilities of fleet and squadron in relation to fleet sanitary efficiency.

Medical Department of Ship in Action

MEDICAL DIRECTOR JOHN C. WISE, U. S. N., detailed the most important constituents in principle, and practice of the efficient organization of the medical department of a ship during action, including provisions for, and methods of, rendering first aid to the wounded, and described a scheme for uniform instruction in first aid to sick and wounded. There is a vast difference between the service to the wounded at sea and on land. At sea the horizontal planes are different, the means of communication between levels or decks are vertical, and in addition, every inch of space on a ship is on the firing line. The Geneva flag protects only the hospital ships. The ship's company should be instructed in first-aid methods. The medical department during action should be stationed at sheltered points, and the hospital corps men at places where they can be most useful. Dressings should be provided in plentiful store, freely distributed and never kept en masse. The transportation should be governed by circumstances.

Hospital Ships

SURGEON GEORGE PICKRELL, U. S. N., to whom was assigned the topic of the precise functions of the hospital ship and its relation to the fleet in peace and war, urged the necessity of hospital ships in time of peace. He recalled one instance when 22 patients on one battleship needed transfer. A floating hospital should be attached to each squadron.

SURGEON CHARLES F. STOKES, U. S. N., considered the factors that make the hospital ship an aid to the efficiency of the fleet; emphasized the importance of one in the selection of the personnel, the type of ship and its equipment; the necessity for an extensive disinfecting plant; the imperative necessity of isolation wards; the early recognition of tuberculosis and the importance to the welfare of the fleet, of proper provisions for prolonged treatment of the disease; and the necessity for extensive laboratory facilities. The hospital ship should be the medical store ship of the fleet, and the fleet surgeon and other medical officers should keep in close touch with the hospital ship. He suggested the advisability of the organization of a medical society in the fleet, with the headquarters on the hospital ship. Junior medical officers should be detailed to serve for short periods on the hospital ship. He then discussed the final disposition of the sick, neutrality, the preparations for battle, the station of the hospital ship during battle, the importance of accurate and complete records and the final disposition of the wounded.

(*To be continued*)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Concluded from page 1677)

Stricture of the Male Urethra

DR. E. O. SMITH, Cincinnati: Stricture of the urethra is an abnormal narrowing of some part of that channel which interferes with the free outflow of urine, due either to muscular spasm or to organic changes in the walls of the urethra. Abnormal narrowing of the external meatus should be divided very carefully. If cut too widely the patient will be left without projectile force. Spasmodic contraction of the urethra is usually due to acid urine, sexual excesses, fissure of anus, hemorrhoids, pin worms, cantharides, turpentine, etc. Strictures following traumatisms are much more stubborn to treatment and the band of scar tissue may have to be dissected out through an external incision. The popular idea that a rapid cure of gonorrhea causes stricture is not based on facts, but, on the contrary, the longer the duration of the gonorrheal inflammation the more liable is the patient to have a stricture. In fact, it is the exception for a urethra to become absolutely normal after one prolonged attack of specific urethritis. The urethra behind the constricting band becomes dilated, a pouch is formed which is a most excellent container and incubator for the germs of sepsis, which may lead to periurethral abscess and possibly urethral fistula. All this argues for an early treatment of stricture. Stricture is suspected when there is gleet, frequent micturition with a tardy beginning of the stream, dribbling after urination, with possibly some hypogastric pain. In examining for stricture great care and gentleness must be practiced, otherwise a false passage may be produced. Treatment is both general and local, and diet bland and not stimulating. Alcohol and tobacco are to be excluded, and sexual excesses avoided, and also exposure to cold and wet. Local treatment is that of gradual dilatation. Begin with the largest sound or bougie that can be easily passed; this may be only a filiform. The size of the sounds used is gradually increased. Treatments should be every four or five days in the beginning, with careful attention to surgical cleanliness. Urethral chill and shock can usually be prevented by giving the patient 10 grains of quinin and 5 drops of tincture of aconite about 20 minutes before the treatment. Epididymitis may, but seldom does, follow the passage of a sound. Strictures that do not yield to the gradual dilatation treatment are the exception. Internal urethrotomy should not be attempted except by those skilled in genitourinary surgery, as there is a possibility of doing great damage. External urethrotomy is seldom necessary in the treatment of stricture, other than those due to traumatism.

Burns

DR. A. H. BARKLEY, Lexington, Ky.: Burns are the most frequent injury in civil life, cause the most agonizing suffering, and frequently condemn the patient to life-long mutilation of the most repulsive character. The severity of a burn depends on the character and degree of the heat, the length of time it is applied and the thickness of the cutaneous surface. A man, aged 56, an engineer, was burned by hot water and steam. He is 5 feet 10 inches and weighed 160 pounds at the time he was injured. He has nineteen square feet of skin on his body. Of this ten square feet were burned off, in four square feet the burn was of the third degree. Recovery was complete. The interesting points in the case are the area of skin burned, absence of contractures, no complications and healing without skin-grafting.

Treatment of Some Forms of Neuralgia by Deep Injections

DR. D'ORSAY HECHT, Chicago: My first patient was injected Nov. 20, 1906, and my last Sept. 30, 1909. During the period between these dates I have injected forty-eight patients with tic douloureux; eight besides this number were rejected because they were unsuited for this treatment. In all cases the diagnosis was made on the strength of the short, sharp paroxysms of pain so characteristic of the condition, and after careful inquiry into all conditions of the teeth, jaws, mouth,

nose, and accessory nasal sinuses, which sources are frequently responsible for pain which may quite closely simulate the disease. One must be mindful of the fact that tumors involving the fifth nerve, as well as syphilis and migraine, can give rise to pains that may simulate trifacial neuralgia. In many of the cases external skiagraphs were taken, and when these were felt to be unsatisfactory or unreliable, intrabuccal film skiagraphs were supplemented for the purpose of eliciting better detail, thereby affording a better means of localizing possible dental or oral sources of irritation. Among the rejected cases were those in which pain was caused by the presence of abnormal dental conditions, post-influenzal nasopharyngeal infections, sinus disease and hysteroid conditions. In point of therapeutic results, 32 patients were distinctly benefited, 8 were improved, 5 were unimproved, and 3 were aggravated. Of the 32 benefited, 1 patient was free for 1 year and 8 months. The shortest free interval has been 2 weeks. Recurrences have varied, in the successful cases on an average of 1 year. Some have returned for reinjection on the first reappearance of pain in 4 months, some 6, some 10 months, some 1 year, some 16 and 18 months. The variability is accounted for by the personal equation and the accuracy with which the alcohol was deposited in, at or near the nerve. In the entire series the patients required from 1 to 5 injections, this number sufficing for a permanent cure in the non-symptomatic neuralgia. An 8 per cent. salt solution of body heat injected in the amount of from 90 to 120 c.c. has seemed to act to better advantage than lesser amounts of different temperature.

What Women Should Know in Regard to Uterine Cancer

DR. J. HENRY CARSTENS, Detroit: I have suggested that the medical profession agitate this subject in the lay press and on every occasion talk cancer. The physician should talk about it in order to arouse the public as to its importance, because it is a great menace. I have suggested to the members of the Michigan State Board of Health that they get up a circular which should be in the hands of every woman in the cancer period of life. This circular should be in the possession of county societies and of every physician and should be given to every woman in the cancer age. The menopause comes on gradually, rarely suddenly. It is not preceded by excessive flowing, or discharge, or pain in a healthy woman. By the cancer period is understood those years after forty, although rarely it may occur earlier. The first symptoms of cancer are: 1. Profuse flowing, even if only a day more than usual. Flowing or spotting during intervals or after the use of a syringe or the movement of the bowels. 2. Leucorrhea, if not existing previously. If existing, but becoming more profuse, watery, irritating or producing itching, it is a very suspicious symptom. 3. Loss of weight if no other cause is apparent. Pain in the region of the uterus, back or side. If any of the above symptoms occur after the age of forty or thirty-five a woman should seek prompt relief and insist on a thorough investigation of the cause and prompt treatment. Cancer is always at first a local disease and can be removed if early recognized, and an absolute permanent cure brought about.

Problem of the Insane and the Defective

DR. L. M. CRAFTS, Minneapolis, read a paper on this subject which embodied a consideration of past methods of care or neglect of these conditions by society, the present lines of care and nurturing of them, enabling their more frequent and prolonged survival and activity, including procreation. He also took up the conditions in the present social state tending to greater strain on the nervous system, with the increasing lines of neuropathic heredity thus engendered. His paper dealt with the various state and national statistics bearing on the question and pointed out the present absolute lack of regulation or control of the free activity of these classes, in producing a posterity. He offered suggestions for advisable legislation for effective control of such individuals.

Reflex Neuroses Arising from Nasal Abnormalities

DR. J. A. STUCKY, Lexington, Ky.: Six salient points, as given by Ziegler, should be borne in mind when searching for reflex neuroses, and to these I would add a seventh. 1. Eye and nose must first of all be thoroughly examined and excluded or accepted as exciting cause. 2. Careful differentiation should be made of those reflexes manifested in common by the eye and nose. 3. Eyestrain from whatever cause, whether ametropia, subnormal accommodation or intranasal pressure, should be corrected to exclude the eye as a factor. 4. Pressure contact in the nose in every instance must be relieved. 5. Every obstruction to free breathing in the superior part of the nose should be removed. 6. Recurrence of any reflex neurosis demands reexamination, renewed search for and correction of original exciting cause. 7. Lithemic conditions, faulty intestinal metabolism of whatever type, must be corrected and deserve careful consideration in every reflex neurosis whatever be the exciting cause.

Acute Dilatation of the Stomach

DR. EDWIN WALKER, Evansville: The treatment of acute dilatation of the stomach consists of prompt evacuation of the stomach by the stomach tube, followed by copious lavage. It would be an excellent practice in all postoperative cases in which vomiting is prominent to resort to this measure. In order to release the pressure on the duodenum the patient should lie on the abdomen, with the foot of the bed elevated or, in extreme cases, in a knee-chest position. It is astonishing in grave cases to see the prompt relief given by these measures. The lavage should be repeated when the fluid reaccumulates or if the condition of the patient does not improve. Strychnin and physostigmin have been given. Rectal feeding should be given.

Muscle Rigidity: An Important Physical Sign of Disease Within the Chest

DR. F. M. POTTENGER, Monrovia, Cal.: Muscle rigidity is a feeling of resistance noticed on palpating the muscles overlying inflammatory conditions of the pleura and pulmonary parenchyma, due to (1) acute spasm of the muscles when the inflammatory process is acute; (2) pathologic change in the muscles when the inflammation is chronic. Muscle rigidity affects both the superficial and deep muscles. It is easily found when the inflammatory process is acute, for then the muscle stands out in acute spasm, or when the process is chronic in character and wide in extent the pathologically changed muscles are easily felt. It is difficult to find if the process is small in extent and not very active. It is important as a differential point in diagnosis between an acute and quiescent process in the lung. If the muscles are in spasm my experience would warrant the statement that the underlying process is acute. Muscle rigidity is not only a valuable sign, but it offers a rational explanation for one other sign, thus limited motion, lessened respiratory murmur, harsh respiratory murmur, prolonged expiration, ankylosis of the costosternal joint, curvature of the spine and increased resistance and slightly altered pitch on percussion.

Prophylaxis of Pellagra

DR. C. H. LAVINDER, Washington, D. C., in a paper on this subject reviews very briefly the theories as to etiology and discusses two points: first, the communicability of the disease, and, second, the practical application of its alleged relation to the use of spoiled corn as a food stuff. He considers that our experience in the United States is too limited for us to base conclusions thereon and that it would be unwise to reject the accumulated observations and deductions of other able men in other countries whose experience has been so much wider and fuller than our own. Since practically all observers agree that the disease is not communicable, and since quarantine measures are not in force against it, he thinks it is not necessary in the present state of our knowledge to adopt quarantine measures. So far as its relation to spoiled corn is concerned, he admits that much of the evidence is unsatisfactory, but since practically all theories of the disease take corn into more or less essential consideration and since Italy, in her determined fight against pellagra, has based most of her procedures on this theory and is claiming a fair share of success, we cannot at present do otherwise in our prophylactic measures than recognize some relationship between corn and pellagra.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Regular Meeting, Oct. 6, 1909

The President, DR. JAMES TYSON, in the Chair

Extrasystolic Arrhythmia Simulating Heart-Block

DR. GEORGE W. NORRIS: The paper is a report of four cases, one of which presented very unusual and perplexing features. This case was first believed to be one of auriculoventricular heart-block, but on careful study proved to be one of extrasystolic arrhythmia. The curious feature of the case was that the patient's peripheral pulse rate would suddenly drop from 80 to 40. This change could for a considerable period of time be brought on at will by a few simple procedures, such as a rapid change of posture, taking a deep inspiration, or compressing the abdomen. Later, in the course of the disease, this tendency became less marked, and a typical pulsus alternans developed. The post-mortem examination revealed well marked arteriosclerosis, with fatty and fibroid changes in the heart muscle.

DISCUSSION

DR. WILLIAM PEPPER: An interesting point to me is the lack of our ability to feel these small extrasystoles. Even with the finer instruments, at times, one cannot perceive them at the wrist or in the brachial artery. I do not say that we are able to tell whether in the small beats the valves open or not, but I think that when we are unable to detect by instrumental means any wave in the peripheral arteries, then probably the aortic valves have not opened.

DR. S. SOLIS COHEN: I should like to ask Dr. Norris to test in various ways what has been well termed the reserve force of the heart, to include the effect of local applications of heat and cold over the precordium. A rough but ready way of determining the amount of good cardiac muscle remaining is to note by the finger the response of the heart to momentary applications of heat followed by cold. When the response is good the prognosis is rather favorable. When this application increases the arrhythmia the prognosis is bad.

DR. ROBERT N. WILLSON, JR.: In studying certain problems in tuberculosis of the guinea-pig I noticed on taking out the heart that when it was exposed to the air the pulsation which almost immediately after removal of the heart from the pig assumed the character of a fibrillary tremor, again changed its nature. The ventricular contractions stopped almost completely, and the auricular systoles continued their rhythm. Then the auricular contraction seemed to cease and the ventricular resumed and later again discontinued. Then for a time and occasionally both were synchronous. Finally, before the contractions stopped altogether, the ventricular systoles gradually increased in power and extent, and the contractions seemed to recede toward the auricle and then toward the great sinus and then disappear. If these phenomena are produced in any such way in the human body in disease, it must needs be that very trifling alterations in the conditions of the body, chemical changes, etc., assume great importance in alteration of the normal beat. This would account for many of the conditions which we now try to explain along chemical lines. If the human heart acts as does the guinea-pig's, then I think the conditions in disease are not understood. We know simply that dissociation of the auricles and ventricles is possible. The causal factors and the governing laws still remain obscure.

DR. JOHN B. ROBERTS: I have been interested in watching the intermission of the pulse in two boys who have had measles. In one the intermittent pulse was present for a year and a half after the attack and finally diseappeared. My explanation was that there was a mild myocarditis. In the other at the time of the intermission of the pulse I have noticed the extra beat of the heart, suggesting the motion of a fish lying in the bottom of a boat. This, I suppose, was the extrasystole. The boy seems to be better under belladonna than under digitalis, although the improvement may be due to the fact that he is regaining the general tone of the muscle and that the irritability is subsiding under the increased time rather than from the belladonna.

DR. A. A. ESHNER: This case emphasizes my view that there is a relation between the varied forms of myocardial degeneration that for convenience's sake we classify clinically as myocarditis and the condition of heart block. It seems to me that degeneration of the heart muscle, whether fibroid or gummatous, not necessarily involving the auriculoventricular conducting bundle of His, may cause degeneration in conductivity or contractility or in the other attributes of the muscular wall of the heart and give rise to disorders of rhythm that we include under the general designation of arrhythmia, and of which heart-block must be considered as an extreme type. I should imagine that the underlying factor in the circulatory variations was the state of the myocardium and that by reason of its inefficiency it was unable to compensate for the increased burden thrown on the heart by reason of the increased blood-pressure.

DR. G. W. NORRIS: It has been repeatedly shown that partial ligation of the aorta in animals will produce extrasystoles. It is quite common to find arrhythymias in young children, particularly after febrile attacks. The type is better designated as sinus arrhythmia. It is probably due to over-action of the vagus nerve affecting the sinus rhythm. Therefore, when belladonna, which depresses the vagus nerve, is given the arrhythmia disappears. While I do not mean to indicate that we have by any means cleared up the whole question, taking up the matter on the basis of the myogenic theory, and considering the five functions of the heart muscle independently, we are able to theorize just as Ehrlich's hypothesis of the blood complement has furnished the bacteriologist with a working basis. Dr. Eshner, in his remarks about blood pressure, stated what I had intended to say.

Spasm of the Arteries and Report of a Case of Vasomotor Neurosis

PROF. PAUL LAZARUS, of Berlin, presented, by invitation, this paper. Professor Lazarus spoke on the vasomotor neuroses, and dealt with functional in contradistinction from anatomic disorders. Under ordinary conditions the circular muscular fibers of the arteries predominate in action over the longitudinal fibers, thus maintaining normal vascular tone. This may be increased by a variety of influences acting from without or from within. Vasomotor neuroses may be of two types, hypertonic or hypotonic, or there may be a combination of the two. Among them may be included migraine, exophthalmic goiter, sclerodactyly, scleroderma, Raynaud's disease, erythromelalgia, paresthetic meralgia, dermographism, angina pectoris, pseudoangina, Stokes-Adams syndrome, paroxysmal hemoglobinuria and hematuria, the crises of locomotor ataxia and vasomotor ataxia. He cited an instance in which arteriosclerosis developed in the train of long-continued increase in blood-pressure apparently of functional origin. He cited another instance in which in the sequence of emotional shock pallor, cyanosis, atrophy and gangrene developed in the upper part of the body, while hyperemia and hypertrophy developed in the lower part. He pointed out that no functional disturbance could take place without vasomotor or nutritive change.

DISCUSSION

DR. S. SOLIS COHEN: There seem to be three elements in the origin of vasomotor disorders: (1) A constitutional liability of the patient; (2) an exciting cause; (3) the point which to me is most obscure—a local determinant. Just why the same patient should have at one time migraine; at another a condition simulating hepatic colic, at another hemianesthesia or asthma or urticaria or circumscript edema of the skin or mucous membranes, is yet to be determined. In some instances, a very slight mechanical force, scarcely to be termed trauma, determines it. At other times the exciting agent, a toxin or thermic change, acts locally, as when the hand plunged into ice water exhibits Raynaud's phenomena or intestinal fermentation gives rise to enteralgia. I do not know why one of my patients who has recovered from Graves' disease should be troubled with recurrent spasm of the temporal artery so that vessel can be seen becoming more distended and more tortuous above the point of constriction, this being accompanied with intense pain which lasts for a minute or two and which can be relieved immediately by the administration of nitroglycerin to relax the spasm, nor do I know why hemoglobinuria follows application of ice to the loins, or to the feet, as happens in another patient. Evidently there is a local determinant in each case. The important point is that we should diagnosticate the individual rather than the attack.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

DELAWARE: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

IOWA: State House, Des Moines, Dec. 7-9. Sec., Dr. L. A. Thomas.

KENTUCKY: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

PENNSYLVANIA: Regular and Homeopathic, Philadelphia, December 14-17; Electic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, Dec. 14-17. Sec., Dr. R. S. Martin, Stuart.

Michigan May and June Reports

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examinations held at Detroit and Battle Creek, May 24-26, and at Ann Arbor, June 8, 1909. Besides the written examination a practical test in refraction was required. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75.

At the examinations held May 24-26, the total number of candidates examined was 62, of whom 57 passed, 1 failed, and 2 were conditioned. The papers for two candidates have not been completed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
American Medical Missionary College	(1909)	82.7, 83.6, 88.7, 89.6, 90.2, 91.5
Hahnemann Medical College and Hospital, Chicago	(1908)	76.7
Northwestern University Medical College	(1908)	85.3
Louisville and Hospital Medical College	(1908)	78.4
Kentucky School of Medicine	(1908)	81.4
University of Michigan, College of Medicine	(1890)	87.3; (1908) 88.7; (1909) 86.
University of Michigan, Homeopathic College	(1908)	86.3
Detroit College of Medicine	(1909)	77.6, 78.1, 79.3, 80.5, 81.3, 81.9, 82.1, 82.6, 82.9, 83.4, 83.7, 83.7, 84.1, 84.2, 84.3, 84.3, 84.4, 85.3, 85.4, 85.5, 86.4, 86.6, 87.5, 87.6, 87.7, 87.7, 88.3, 88.4, 88.5, 89, 89.5, 89.5, 89.9, 89.9, 90.
Detroit Homeopathic College	(1909)	76.9, 78.1, 78.5, 78.9, 80.7
Eclectic Medical Institute, Cincinnati	(1907)	81.2
Jefferson Medical College	(1904)	78.5
Imperial University, Warsaw	(1904)	82.5
FAILED		
University of Michigan, Homeopathic College	(1908)	74
CONDITIONED		
Louisville Medical College	(1902)	*77
Detroit College of Medicine	(1909)	**79.1

* Conditioned in surgery.
** Conditioned in eye, ear, nose and throat.

At the examination held June 8, the total number of candidates examined was 79, of whom 70 passed, 1 failed and 3 were conditioned. The papers for five candidates have not been completed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
American Medical Missionary College	(1907)	75
University of Louisville	(1908)	86.6
Rush Medical College	(1909)	86.7
University of Michigan, College of Medicine	(1909)	78.4, 79.8, 80.7, 81.8, 82.6, 82.8, 83, 83.3, 83.5, 83.8, 83.9, 84, 84.1, 84.2, 84.2, 84.2, 84.4, 84.7, 84.7, 84.8, 85.2, 85.2, 85.2, 85.3, 85.5, 85.5, 85.5, 85.9, 86.2, 86.7, 86.8, 86.8, 86.8, 86.8, 86.9, 86.9, 86.9, 87, 87, 87.1, 87.3, 87.4, 87.4, 88.1, 88.1, 88.3, 88.7, 88.7, 88.9, 89.2, 89.5, 89.5, 89.9, 90.7, 91.1, 91.7.
University of Michigan, Homeopathic College	(1909)	82.6, 85.1, 86.1, 86.2, 86.4, 87.1, 87.2, 87.4, 88.2, 88.8, 89, 90.3.
FAILED		
Kentucky School of Medicine	(1907)	71.5
CONDITIONED		
University of Michigan, College of Medicine	(1909)	*77.1
University of Michigan, Homeopathic College	(1909)	*80.5, **82.8

* Conditioned in Obstetrics.
** Conditioned in Histology.

Pennsylvania June Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia, Pittsburg and Harrisburg, June 22-25, 1909. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, the total number of candidates examined was 354, of whom 334 passed and 17 failed. Three candidates did not complete the examination. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
University of California	(1891)	1
Georgetown University	(1891) (1908)	(1909) 3
Chicago College of Medicine and Surgery	(1909)	2
Rush Medical College	(1909)	1
University of Louisville	(1907)	(4, 1909) 5
Baltimore Medical College	(1909)	9
Woman's Medical College, Baltimore	(1908)	1
College of Phys. and Surg., Baltimore	(1908)	(2, 1909) 3
Baltimore University	(1903)	1
University of Maryland,	(1899) (1903) (1905) (1906)	(2, 1909) 6
Johns Hopkins University	(1907) (1908)	(2, 1909) 4
Maryland Medical College	(1908)	(3, 1909) 4
University of Michigan, College of Medicine	(1909)	1
Syracuse University	(1908)	1
University of Buffalo	(1909)	1
Columbia University, Coll. of Phys. and Surgs.	(1907)	1
Cleveland College of Physicians and Surgeons	(1908)	1
Western Reserve University, Cleveland	(1909)	3
Starling Medical College	(1898)	1
Univ. of Pennsylvania	(1906) (1907) (2, 1908)	(63, 1909) 67
Woman's Medical College of Pennsylvania	(1907) (1908)	(11, 1909) 13
Temple University	(1909)	16
Jefferson Medical College	(1905) (2, 1906) (3, 1908)	(62, 1909) 68
Medico-Chirurgical College, Philadelphia	(1907) (2, 1908)	(61, 1909) 64
University of Pittsburg	(1907) (3, 1908)	(49, 1909) 53
University of Toronto, Ontario	(1898)	(1904) 2
McGill University, Canada	(1909)	1
University of Innsbruck, Austria	(1908)	1
FAILED		
Howard University	(1907)	1
Illinois Medical College	(1907)	1
Medical College of Indiana	(1898)	1
Louisville and Hospital Medical College	(1908)	1
University of Louisville	(1909)	1
University of Maryland	(1909)	1
Atlantic Medical College	(1900)	1
Leonard Medical School	(1909)	1
Jefferson Medical College	(1909)	1
University of Pittsburg	(2, 1908)	(3, 1909) 5
Medico-Chirurgical College, Philadelphia	(1909)	1
Temple University	(1908)	1
University of Naples, Italy	(1898)	1

At the examination held by the Homeopathic Medical Society of Pennsylvania, the total number of candidates examined was 44, all of whom passed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Atlantic Medical College	(1909)	1
New York Homeo. Med. Coll and Hosp.	(1908)	(1909) 2
Cleveland Homeopathic Medical College	(1909)	1
Jefferson Medical College	(1908)	1
Hahnemann Med. Coll. and Hosp., Philadelphia	(1909)	39

At the examination held by the Eclectic Medical Society of Pennsylvania, the total number of candidates examined was 27, of whom 25 passed and 2 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Illinois Medical College	(1908)	1
Bennett Medical College	(1909)	2
National Medical University, Chicago	(1908)	1
Atlantic Medical College	(4, 1908)	(7, 1909) 11
Maryland Medical College	(1907)	(3, 1909) 4
Baltimore Medical College	(1907)	1
Baltimore University	(1903)	1
University Medical College, Kansas City	(1905)	1
Eclectic Medical Institute, Cincinnati	(1909)	3
FAILED		
Baltimore University	(1902)	1
University of Pittsburg	(1907)	1

Rhode Island October Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Oct. 7-8, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. All applicants were required to give a laboratory test in analysis of urine. The total number of candidates examined was 14, of whom 8 passed and 6 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Yale University	(1907) 87.7; (1909)	95.4
George Washington University	(1909)	92.2
College of Physicians and Surgeons, Baltimore	(1909)	90.6
University of Maryland	(1909)	81
University of Michigan	(1883)	80.0
Dartmouth Medical School	(1887)	81.4
Cornell University Medical College	(1908)	91.4
FAILED		
Atlantic Medical College	(1909)	61.6
Baltimore Medical College	(1907) 72.8; (1909)	76.6
College of Physicians and Surgeons, Baltimore	(1909)	75.8
Laval University, Quebec	(1904) 68.4; (1909)	74.7

Book Notices

L'HYPOPHYSE ET LA MEDICATION HYPOPHYSAIRE. Par M. le Docteur Arthur Delille, Membre Adjoint de la Société Anatomique. Paper. Pp. 336. Paris: G. Steinheil, 1909.

The present volume is valuable not only because of the records of experimental work by Dr. Delille but because it contains a thorough review of the rapidly increasing literature of the subject. The conflicting views concerning certain phenomena are set forth, and an effort is made to reconcile the discrepancies, particularly those regarding the effects of hypophysectomy. The experimental work by Dr. Delille is concerned almost entirely with the effect of extracts of hypophysis when injected into animals and man during health and in disease. There is no discussion regarding the technic of operating on the gland. Dr. Delille discusses the experiments of Masay, which attempted to create for experimental purposes, by the administration of a so-called hypophysotoxic serum a condition analogous to that following surgical removal of the gland. This serum was prepared by immunizing guinea-pigs with an extract of hypophysis. He criticises the value of the conclusions drawn because no account was taken of the possible effect of the serum on the rest of the body, particularly the other glands, but he admits that work by this method would be valuable if careful observations were made concerning the effects of the serum. In the essential points Delille is in harmony with Cushing (THE JOURNAL, July 24, 1909, liii, 249), but he differs in several details. He finds that in animals an anterior lobe extract causes moderate hyperactivity of the hypophysis and thyroid, but Cushing states that it does little or nothing.

Some of Delille's conclusions are especially interesting, as for example, the signs and symptoms of diminished and increased activity of the gland. He sums up those of hypophyseal insufficiency and dyshypophysism as follows: hypotension, tachycardia, distressing sensations of heat, profuse sweats, oliguria, anorexia, asthenia, disturbances of nutrition (loss of flesh; obesity in certain cases, trophic changes, etc.), psychic troubles, insomnia, disturbed growth (physical and mental backwardness), diminution of resistance to intoxications, special signs of intracranial compression due to pituitary tumor. The evidences of hyperhypophysism he says are: hypertension, polyuria, glycosuria, troubles of nutrition (loss of flesh; often obesity, etc.); the number of blood-cells equal or above normal; hypertrophic processes of development (gigantism, acromegaly); psychic troubles, somnolence; nearly always a genital insufficiency; frequently hypothyroidism; and special signs of intracranial pressure due to pituitary tumor. Cushing states that polyuria, sometimes associated with glycosuria, is a somewhat characteristic symptom of hyposecretion of the anterior lobe instead of hyperhypophysism. Moreover, he regards adiposity as a more constant and more important sign of hyposecretion than does Delille.

Concerning the indications for hypophyseal medication Delille seems to hold perhaps too radical an opinion for the present state of knowledge when he makes the following statement: "The direct hypophyseal organotherapy will find its indication in every case in which one wishes to raise the arterial tension, slow the pulse, increase diuresis, suppress troublesome sensations of heat and profuse sweats, ameliorate the appetite and sleep, cause the disappearance of asthenia, attenuate certain psychic troubles, exercise a stimulating action on nutrition and development; in short, hypophyseal organotherapy will be prescribed in every case in which the certain or probable diagnosis of hypophyseal insufficiency shall be made. One should abstain from this medication with patients who have a hypertension."

As regards the administration of the extract Delille says: "One should use by preference the total extract, for it is, in equal doses, nearly as active as the posterior lobe; besides it is easier to prepare and consequently less expensive. The properties of the anterior lobe are still too mysterious to warrant the use of its extract in practice. The daily dose of the total extract which one should advise ought not to be more than that of half of one fresh gland of the beef, save in exceptional cases. The patient should be strictly watched in the course of the treatment; the arterial pressure should be taken regularly and one should depend on it to increase or diminish the doses, to suspend or to resume medication."

LEHRBUCH DER GREISENKRANKHEITEN. Herausgegeben von Prof. Dr. J. Schwalbe, Berlin. Paper. Pp. 914. Price, 26 marks. Stuttgart: Verlag von Ferdinand Enke, 1909.

The necessity for a special work on the disease of old age does not at first seem perfectly clear. While it may be argued that there is as much justification for a work of this sort as for one on diseases of children, most readers will feel that the peculiar problems presented by infant-feeding, the rapid progressive changes of infancy and childhood, the partiality of so many acute infectious diseases for childhood, and certain anatomic and physiologic peculiarities of the young, offer valid reasons for the existence of treatises on the diseases of children, which reasons do not quite have their counterpart when the maladies of old age are considered. One must admit, however, that certain characteristics of old age are worth emphasizing and perhaps even embodying in a special volume; one thinks at once of the regressive and atrophic changes in tissues, the vascular scleroses, the frequency of carcinoma, the vulnerability to pneumonia, etc.

These peculiarities are well brought out in this work. Of necessity, much that is not peculiar to old age is embodied. Perhaps we ought not to say of necessity, for we are inclined to think that had there been a liberal omission of much of the description that would apply to disease of all ages (which knowledge should be assumed as possessed by the reader), and if there had been more concentration of the peculiarities of the various affections in old age, the value of the book would have been increased.

Most of the articles are good, as the names of the writers would lead us to expect. Some of these writers are themselves old, but they write with the vigor of youth and the wisdom of advanced years. Some articles are unusually full, e. g., Hope-Seyler's on respiratory diseases, and Ortner's on typhoid fever. Fürbringer's article on prostatic hypertrophy is reasonably complete, yet carcinoma of the prostate is covered in half a page. Ebstein might appropriately have gone more into details on arteriosclerosis.

The book may be commended as thoroughly reliable, though we feel that the physician who needs help in the diagnosis of treatment of a disease in the aged, be it pneumonia, typhoid, gastritis or carcinoma of any organ, will be more apt to turn for help to his work on general medicine or to special works than to this book, which, after all, is much on the order of a compend of symptoms and signs of disease as seen in the old with the treatment.

CAUSES OF DISABILITY AS APPLIED UNDER ACCIDENT AND HEALTH INSURANCE POLICIES. Designed for the Use of Insurance and Fraternal Examiners, General Practitioners and Students of Medicine, Attorneys and Corporations. By Charles Hamilton Harbaugh, M.D., Medical Director American Assurance Company. Cloth. Pp. 650, with illustrations. Price, $6. New York: The Spectator Co.

The average physician is sadly deficient in his knowledge of the laws of accident and industrial insurance and of the proper method of making examinations and writing out reports concerning his findings in this class of cases. The object of this work is to supply this knowledge; but on reading it one is impressed by the fact that it is apparently written in the interests of the accident-insurance companies rather than in the interest of the physician or of scientific medicine; invidious comparisons are frequently made between the life-insurance examiner and the accident-insurance examiner.

Physicians are urged to "develop themselves into adjusters for the companies they represent." "A doctor who adjusts for an accident-insurance company is so well intrenched with his company that it is almost an impossibility for another physician to secure any examinations from the company."

For all of this examining and adjusting and playing the interests of the company against those of the patient, the compensation is altogether inadequate, for it is stated that "accident-insurance companies seldom pay more than two or three dollars for each examination." That the advice given in settlement of cases is at times to the advantage of the company at the expense of what is just to the insured, is well shown on page 102, under "Diseases of the Brain." "When

the diagnosis of an abscess of the brain exists and there is a history of a severe injury, such as a fracture of the skull or a bad concussion, it is best for an insurance company to effect an advance settlement with an individual who may be carrying an accident-insurance policy by allowing one or two months of this disability. Should an adjustment not be secured, the abscess may terminate in death, and if this occurs within ninety days from the date of the accident, the company may be liable for a death claim for the amount of the policy and this would be much more than if the above time of total disability had been paid.

"Insurance companies do not care to take chances on these cases and prefer to make a settlement in advance."

While the volume contains information of value to those engaged in this particular line of work, one cannot but be impressed by the fact that much of it is written from a biased point of view.

TEXT-BOOK OF HYGIENE. By George H. Rohé, M.D., Late Professor of Therapeutics, Hygiene and Mental Diseases in the College of Physicians and Surgeons, Baltimore, and Albert Robin, M.D., Professor of Pathology, Bacteriology and Hygiene, Medical Department Temple University. Fourth Revised Edition. Cloth. Pp. 582, with illustrations. Price, $3. Philadelphia: F. A. Davis Co., 1908.

This work, during the lifetime of Dr. Rohé, enjoyed not a little well-deserved popularity, which, after his death, for lack of revision, suffered partial eclipse. It now appears edited by Dr. Albert Robin, assisted by special writers on such topics as military, naval, school and personal hygiene and quarantine.

The editor has had an arduous task before him, that of adding, subtracting and correlating in such a way as not to detract from the ensemble and style of the book as Rohé left it. The result is perhaps as satisfactory as could be attained by any means (short of radical rewriting of the whole book). There might have been a more general modernizing of much of the sources of statistics and opinions throughout the book; this criticism is particularly applicable to the retention of Pettenkofer's theory in references to typhoid fever and Asiatic cholera. The pruning-knife, too, might have been more vigorously used in several places in the chapters dealing with air, soil, antiseptics and disinfectants and the infectious diseases.

A few typographic errors have crept in, noticeably in the disarticulation of the last paragraph on page 563 from its context at the end of the second paragraph on page 562. The photographic reproductions, Figures 7, 46, 47 and 50 are very indistinct, owing, doubtless, to the unsuitability of the paper for this sort of work. Figure 45 is reversed. The book in its general make-up is pleasing and its contents well within the bounds of accuracy.

THE PRACTICAL MEDICINE SERIES. Edited by Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. II. GENERAL SURGERY. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Northwestern University, Chicago. Cloth. Pp. 617, with illustrations. Price, $2. Series 1909. Chicago: The Year-Book Publishers.

The volume on General Surgery of the Practical Medicine Series for 1909 is well up to the high standard of excellence which has characterized its predecessors. The accomplished editor of this *multum in parvo* has so thoroughly reviewed the surgical literature of the past year that very little of importance has been omitted. We can heartily endorse and commend to the particular notice of hospital authorities the remarks of the editor on the necessity for reform in the methods of administration of anesthetics. The administration of anesthetics by persons without special training, as practiced to-day in many of our hospitals, is, in the light of modern knowledge of the subject, almost criminal. While the greater part of the book is devoted, as might be expected, to the surgery of the abdomen, in which wonderful progress is to be noted, the whole field of general surgery is well covered. With its full index this little volume is a valuable accession to the library of either surgeon or general practitioner.

SUTURE OF ARTERIES: An Experimental Research. By E. Archibald Smith, M.B., Ch.B., Victoria University, F.R.C.S., England. Cloth. Pp. 70, with illustrations. Price, 90 cents. New York. Oxford University Press, 1909.

The paucity of literature in the English language on the subject of suture of arteries, the little that exists being mainly scattered in journals, has led Smith to prepare this little monograph. The first two sections are devoted to historical description of the various methods of operation and brief lists of cases in which they have been employed. The third and fourth sections are devoted to a description of the method of suture devised by the author, and an account of research work done by him. From his experimental work and the study of reported cases, Smith concludes that successful suture of blood vessels depends, under strict asepsis, on the bringing together of intima with intima with the minimal amount of suture exposed to the blood current. This, he believes, can be most certainly accomplished by a quilled suture method of his own device. The principal methods in vogue are clearly described and illustrated. The typography of the book is excellent, but it is to be regretted that the fairly complete bibliography is nearly two years behind the date of the preface.

PRINCIPLES OF PHARMACY. By Henry V. Arny, Ph.G., Ph.D., Dean and Professor of Pharmacy in the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Cloth. Pp. 1175, with 246 illustrations. Price, $5 net. Philadelphia: W. B. Saunders Co., 1909.

There are already in the field a considerable number of works on pharmacy, but the subject has by no means been exhausted. In the preface Professor Arny states that the "frank intention of this book is to explain the Pharmacopeia from its pharmaceutical standpoint. At the same time, however, the book disclaims all attempts to be a text-book in chemistry or botany."

Professor Arny treats the subject in seven sections or parts. In Chapter 1 of the first part the origin, history and scope of the Pharmacopeia are explained in detail. The later chapters of Part I are taken up with a description of the technic of pharmaceutical operations. Part II considers the official Galenical preparations and such others as are worthy of notice. In Parts III and IV the chemical relations of drugs are considered. The official pharmaceutic tests and assays are grouped together in Part V, a feature not found in other treatises on pharmacy, although an arrangement somewhat similar to this has been purposed for the next U. S. Pharmacopeia. The prescription in all its phases is considered in Part VI. Part VII is a manual of laboratory exercises involving all of the operations of practical pharmacy, and including exercises in equation-writing and chemical arithmetic.

A few verbal inaccuracies may be noted, but they are not such as greatly to impair the value of the work. While some might doubt the need of introducing the rudiments of physics and chemistry, the sections on these subjects will be of use to the practicing pharmacist whose preliminary training is limited. On the whole the book is well written and should prove particularly valuable to the student of pharmacy and even to the physician as a reference work.

ELECTRICITY IN GYNECOLOGY. By May Cushman Rice, M.D., Professor of Gynecology and Clinician in the Illinois School of Electrotherapeutics. Cloth. Pp. 159, with illustrations. Price, $1. Chicago: L. I. Laing & Co., 1909.

For those who believe in electricity as a curative measure, Dr. Rice has written an epitome of the therapeutic indications for electrical treatment. She has given concise and definite information as to the action of different currents, including cataphoresis and electrolysis. After explaining the therapeutic value of the poles, Dr. Rice gives a simple method of polarizing a battery that will insure definite results. The cataphoretic application of thiosinamin is mentioned for dissolving scar tissue. The questionable value of the *x*-ray in the treatment of carcinoma is very sanely considered as a valuable adjunct to surgery and a boon to the sufferer of inoperable carcinoma. In Dr. Rice's remarks on fibroid she has overlooked the risk of using electricity without a microscopic examination, which alone will determine whether or not the tumor is malignant; neither is she concerned with the possibility of a secondary malignant growth developing in a fibroid tumor. In the treatment of acute inflammations, the question of the element of the phagocytic action of the blood is entirely ignored, and from the results which she has obtained in acute conditions, and the length of time requiring a symptomatic cure, the convalescent period does not seem to be shortened. The deductions offered as to the efficacy of electricity in cellulitis and salpingitis are not convincing, or in many respects scientific.

Medicolegal

Power of Claim Agent to Employ Physician

The Appellate Court of Indiana, Division 2, says that the case of Southern Ry. Co. vs. Hazlewood (88 N. E. R. 636), was brought by the latter, a physician, to recover the value of services rendered a brakeman injured in the company's service. The evidence showed that the brakeman was injured during the night and was taken to a place where he was examined by the company's regular surgeon, who at that time gave him no medical attention beyond prescribing a headache powder; that the next morning his father, a physician who lived at a distance, came to see him, and dismissed the company's surgeon, whereupon the plaintiff became the attending physician. A claim agent, or "assistant law agent," called on the injured employee the same morning. There was evidence that he told the brakeman to keep the plaintiff, and the company would pay for it. The brakeman was later removed to a hospital, where on at least two occasions, the claim agent inquired how he was getting along, told him to let the plaintiff continue his treatment, and that the company would pay the bill. The plaintiff testified that the claim agent said that the brakeman was dissatisfied with the company's surgeon, and that he wanted him to go ahead and look after him, and that he should rest easy about the bill; that the company would as soon pay him as any other physician, and for him to keep account of his bill, and the company would pay it. The plaintiff ordered a spinal brace for the patient of a surgical instrument house in Louisville and the bill was sent to the company's general superintendent and paid. The brakeman testified that the settlement was made between himself and the company by its agreeing to give him $5,300 and pay his hospital expenses and doctor bills.

The court holds that the first paragraph of the complaint, which was what is called a common count "for services rendered at the special instance and request of the defendant," was sufficient, as railroad companies may employ surgeons generally.

The company urged that the claim agent had no authority to employ a physician. But he had authority, the court says, to compromise the claim against it, and to minimize damages recoverable from it. The settlement which he made was adopted. The employment of a competent surgeon might be one step in minimizing such damages and in procuring such settlement. It was therefore germane to the employment. The company, having held him out as possessing authority, was in any event precluded from denying it.

The case of Louisville, etc., R. Co. vs. Smith, 121 Ind. 353, strongly relied on by the company, was not in point. The authority of a conductor and a claim agent rests on a different basis. The natures of the two employments are essentially different. The duty of the "assistant law agent" was to visit injured persons, and to settle or to compromise with them. The employment of a physician is reasonably incidental to those duties, and whether he acted within the scope of his authority was a matter of proof.

The promise of the railroad company to pay the plaintiff was not within the statute of frauds, so as to be required to be in writing, for two reasons: (1) The debt was the debt of the company; (2) where a promise is made to a debtor to pay his debt to a third person, and sufficient consideration has passed between the debtor and promisor, an action may be maintained without the discharge of the original debtor.

A judgment for $196 in the plaintiff's favor is affirmed.

Evidence and Certainty Required to Sustain Malpractice Cases

The Supreme Court of Oklahoma holds, in Kernodle vs. Elder (102 Pac. R. 138), that, in suing a physician for malpractice in setting and treatment of a fractured limb, where there is no guaranty of cure or contract for extraordinary skill, and where the evidence fails to show that the results are not such as usually and ordinarily result in such cases where treated by an ordinarily skilful physician using ordinary care, then there is a failure of proof, and the plaintiff is not entitled to recover. Where in such a case it is apparent from the record that the claim of the plaintiff cannot be sustained, on reversal the court will not remand for new trial, but will direct a dismissal.

There are no classes of cases, perhaps, which go to juries, or, indeed, with which lawyers and courts are called on to deal, the court says, where results are so uncertain and so frequently unsatisfactory as cases involving damages against physicians for alleged malpractice in their efforts to alleviate the ills to which human flesh is heir. It is nearly always the defendant's judgment which is on trial; and on the hearing the jury and the parties are all sitting and speaking after the fact, while the unfortunate physician when he acted was perhaps required by the conditions to grope, deliberate, and often speedily act, and always before the fact. After he has acted and the results are different than he desired or expected, and different than were expected or desired by the patient, if a suit is brought, the physician is confronted with all of the after-acquired knowledge, and his responsibility is weighed from that standpoint rather than from the true one. A preponderance of the evidence in cases of this character is sufficient to sustain a plaintiff's cause. No more should be required, and no more is required; but it should be certain on the part of the court and the jury that they are acting from actual evidence before them, properly referable to the cause, and that the judgment, when against the physician, is based on such evidence, and not on bias, conjecture, or inference.

In this case the plaintiff claimed that he fractured the bone of his right hip joint, and that the defendant negligently and unskillfully diagnosed the difficulty, in that he dressed and bandaged the limb as if the break were between the knee and the hip, and as though the fracture were in the vicinity of the knee, and that by reason of this error on his part the fracture itself was left wholly unattended and uncared for. The evidence showed that the plaintiff, who was a man of the age of 56 years and of fairly good health and activity, fell on the ice and fractured the femur bone of his right leg at or near the neck. He called in the defendant to treat him, and the defendant arrived in about two hours after the accident, placed the plaintiff under the influence of chloroform, and made an examination. The plaintiff and a number of other witnesses, members of his family and neighbors, testified that the defendant informed him and them that the limb was fractured at a place above the knee, between it and the upper part of the femur, perhaps about the middle. It also appeared that the defendant applied a "Buck's extension," which consisted of, in this case, a splint in the shape of a board, attached to the limb on the under side, to which was fastened a rope which extended to a window frame, with a 5½-pound iron attached, for the purpose of tiring and extending the muscles to bring the broken parts of the bone in apposition. The physician remained with the plaintiff all of that night, and on the morning of the second day thereafter he returned, bringing with him what is commonly known as a "Hodgen splint," an appliance which he had made, consisting of an iron, bent much in the shape of a hairpin, the two sides laced together with webbing or cloth, and of about the length and shape of the leg. Into this the limb was placed with the foot near the loop, the open end being toward the body, the inside piece being about 10 inches shorter than the outside piece. This entire frame was then swung about 2 inches clear of the bed, allowing the limb to lie in this splint, which was attached to a pulley from the ceiling or window ledge by ropes or cords. That in this condition the plaintiff remained in bed about three weeks, during which time he was waited on by the physician. The plaintiff testified that his limb was left by this treatment in a weak or stiff condition in the hip, which interfered with its use; that it hurt him in walking, and he stated: "I cannot use it as well as I could before it was hurt; it is stiff, and the muscles won't expand;" also, that he could not walk without the use of a cane or crutch.

The plaintiff also stated that after the treatment by the defendant he had applied to two local physicians for treatment, one of whom testified that he made an examination of the limb and was present when the same was examined with the *x*-ray. That the examination revealed an impacted fracture at the neck of the femur, the result of which, he stated, necessarily shortened the limb. He further testified that in a case of this character it was very likely that treatment would

not produce the best results, and that the limb would be shorter than its normal length.

From the testimony of the local physicians it appeared that the injured limb was from 1 inch to 1½ inches shorter than the other, and from this evidence no other inference could be drawn than that this was as good a result as could be reasonably expected, considering the age and condition of the plaintiff. At all events, there was an absolute lack of any evidence, the court says, showing that in cases of this character, under any kind of treatment, the limb is ever perfect afterward or equals in length the uninjured limb. In this case the burden was not on the defendant to show that the plaintiff's limb was in as good condition as medical science and skill could place it after its injury, but the burden was on the plaintiff to show that it was not. This, in the court's judgment, he totally failed to do.

Should it be shown by the evidence that the limb which the plaintiff had was not such a limb as a physician of ordinary skill and using ordinary care and diligence should have left him with, after treating it, then the burden would be on the plaintiff, in order to sustain the verdict in this case, to show by the evidence that this result was brought about through lack of skill on the part of the physician, or through some wrongful or negligent act of omission or commission on his part. Neither of these conditions should be supported merely by theory, conjecture or inference, but they should be based on tangible, substantial evidence which the court and the jury may grasp and understand.

The plaintiff asked for $1,000 damages. He obtained a verdict for $500. But with all of the evidence before it on which the plaintiff could possibly predicate the hope of recovery, and there being in the court's opinion a total want and absence of the necessary elements to entitle him to recover, the court remanded the case with instructions to dismiss it.

Death from Erysipelas Following Injury is Attributable to the Latter

The Supreme Court of Montana says, on the second appearance before it of the case of McAuley vs. Casualty Company of America (102 Pac. R. 586), that it had a different record before it from what it had the first time. According to the latter, the court was clearly justified in concluding that a person could become ill from erysipelas in some manner other than by inoculation from an outside germ, through an abrasion of the skin. But all of the testimony on the second appeal showed that a person can contract erysipelas in but one way, namely the introduction of the germ of the disease through an abrasion of the skin. The only logical conclusion was therefore that Mrs. McAuley died from erysipelas—which the physicians said at the trial was a form of blood poisoning—caused by the germs of that disease entering her system through an abrasion of the skin of her leg, which she suffered in alighting from a street car.

It was contended by the casualty company, however, that this was not sufficient to fix a liability on it under its contract, for the reason that the disease germs might have been communicated to the hurt, not at the time of the accident, but from the hands of her husband, or from bandages or liniments which were immediately thereafter used and applied. But the court is of the opinion that this contention could not be sustained. These contracts of insurance, like all others, must be construed with a view to carrying out the intention of the parties. The manifest intention of these parties was that, if Mrs. McAuley was injured while riding as a passenger on a street car, the plaintiff beneficiary should be indemnified, to a certain extent, for his loss.

That the disease germs were communicated to Mrs. McAuley's leg from the hands of her husband, or from the bandages or liniment, was mere conjecture; there was no word of testimony on the subject. The jury found that she injured her leg at the time and place in question, and the proof showed that erysipelas manifested itself within the usual time. If a man not learned in the medical profession—one of the neighbors, for instance—were asked what caused Mrs. McAuley's death, he would undoubtedly reply that she scratched her leg getting off a street car, and that blood poisoning set in, from which she died. This is the way people generally understand these matters; and why should the courts adopt any other or different method of looking at the ordinary affairs of life? The injury and the erysipelas and the death were proven facts in the case. If Mrs. McAuley had not injured her leg in alighting from the car, there would have been no occasion to apply bandages or liniment, and the probabilities were she would still be alive. The defendant company induced the plaintiff to insure the life of his wife against accidental death; he paid the premium, and she thereafter died from the effects of an accidental injury. The court has no hesitancy in agreeing with the jury that the injury to her leg was the proximate cause of her death, and affirms a judgment for the plaintiff.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

November 6

1 Parasitism and Natural Selection. R. G. Eccles, Brooklyn.
2 *Acetone Treatment of Inoperable Carcinoma. D. W. Tovey, New York.
3 *Differential Diagnosis Between Certain Forms of Tertian Malaria and Enterogenic Intoxication. H. A. Houghton, Bayside, L. I.
4 *Spastic Constipation, A Symptom. J. N. LeConte, Altanta, Ga.
5 Mongolian Idiocy. A. M. Hellman, New York.
6 *Non-Specific Uses of Antidiphtheritic Serum. F. M. Fernandez, Havana, Cuba.

2. **Acetone Treatment of Inoperable Carcinoma.**—Tovey reports eight cases of inoperable carcinoma treated with acetone as first used by Gellhorn. The patients had passed beyond the reach of any radical operation and in some cases the cancer had consumed the greater part of the cervix and vagina. The treatment, in a simple and harmless way, has given these patients a period of comparative ease and comfort. Tovey says that the treatment is of value only in inoperable cases, and does not give a permanent cure, but ameliorates the chief symptoms and makes the life of the patient endurable. The terrible odor, discharge, and hemorrhages are all relieved, and when they return the treatment can be given again without harm. The hemorrhages, septic absorption, and odor are all stopped.

3. **Tertian Malaria and Enterogenic Intoxication.**—According to Houghton many so-called cases of malaria of indefinite type are in reality cases of intestinal intoxication from non-digestion of foods, or the action of bacteria on digested but unassimilated foods.

4. **Spastic Constipation.**—According to LeConte, spastic constipation depends on a spastic contraction of the longitudinal and circular fibers of the intestinal wall, caused by inflammation or irritation. It is generally found in nervous, high-strung persons, especially women. The symptoms are attacks of sharp pain along the colon or radiating from the umbilicus, especially before the expulsion of gas or feces, dull aching pain in the intervals, and small scybalous or flattened stools, passed in two or three stools each day with much pain. Laxatives give much pain and act in large doses. Mucus in considerable quantity may be passed. Harsh, irritating foods, such as are used in the atonic variety, are harmful here. The diet should be bland and should consist of materials that can all be passed through a fine sieve. The condition is associated with mucous colitis in many cases.

6. **Non-Specific Use of Antidiphtheritic Serum.**—Fernandez advocates the use of antidiphtheritic serum in a number of non-diphtheritic diseases, in the nature of infections, either general or local. He has found it useful in suppurative keratitis of whatever origin, in infectious ulcers of the cornea, and penetrating wounds of the eye, in several respiratory affections, bronchopneumonia, and measles.

Boston Medical and Surgical Journal

November 4

7 Diagnosis of Renal Tuberculosis. A. L. Chute, Boston.
8 Renal Tuberculosis. Pathogenesis and Pathology. L. Davis, Boston.
9 Prognosis and Treatment of Renal Tuberculosis. R. F. O'Neil, Boston.

10 Difficulties of Diagnosis in Renal Tuberculosis. F. B. Lund, Boston.
11 Direct Transfusion of Blood. Comparison of Methods. J. C. Hubbard and A. R. Kimpton, Boston.

New York Medical Journal

November 6

12 Attic Suppurations. M. J. Ballin, New York.
13 Present Status of Vaccine Therapy. H. A. Duncan, Philadelphia.
14 Intramuscular Injections in Treatment of Syphilis. V. C. Pedersen, New York.
15 The Technic of Round Ligament Shortening Through the Internal Ring, Combined with Coleotomy. C. W. Barrett, Chicago.
16 Cholelithiasis Simulating Duodenal Ulcer. H. Weinstein and R. Cronson, New York.
17 Celsus on Diseases of the Stomach. C. G. Cumston, Boston.
18 The Fowler Position in Treatment of Peritonitis with Description of the Gorham Bed. G. Griffin, Albany, N. Y.
19 *Influence of Hydrogen Peroxid on Hydrochloric Acid Secretion. E. H. Goodman, Philadelphia.
20 A Foreign Body in the Urethra. J. H. Dowd, Buffalo, N. Y.

19. **Influence of Hydrogen Peroxid on Hydrochloric Acid.**—Goodman has repeated the experiments of Petri in fifteen patients. Fifty cubic centimeters of a 3 per cent. solution of peroxid of hydrogen were made up to 300 c.c. with water, making approximately a 0.5 per cent. solution. An ordinary Ewald test meal was given and examined in the usual manner and was later followed by the peroxid test meal. No difficulty was experienced in getting the patient to take the latter, and no unpleasant sensations were complained of, with the exception of one patient, who said the "water had a fishy taste." There was a striking diminution in the quantity of free hydrochloric acid when a weak solution of hydrogen peroxid was substituted for tea in a test meal. Occasionally only a moderate decrease was observed, but in the majority of cases the decrease was astonishing, in some instances a total absence of free acid being noted. Not one of these six patients in whom the free acid was lacking, complained of any unpleasant sensations however. Only one patient, a neurasthenic and sullen youth, offered any opposition to the peroxid on account of the taste. Therapeutic application of the facts learned from these studies was made in a few instances. For use in the ward, a 0.5 per cent. hydrogen peroxid solution was made up in bulk and under the name of special water, was given to certain patients. The first patient to receive this water was suffering from headaches and gastric fermentation, and while under observation there developed an array of diurnally varying pains and symptoms. Another patient had the usual symptoms of hyperchlorhydria and suffered a great deal at night with burning sensation in the epigastrium. This was so intense that he was usually wakened out of a sound sleep by the pain. Hydrogen peroxid quickly relieved the distress, and although he stated that the special water made him sick for the time being, he became accustomed to it and drank no other water during his stay in the hospital. He was discharged cured, no other medicine being used except peroxid.

Northwestern Lancet, Minneapolis

November 1

21 *Relation of the Medical Profession to the State. C. Williams, St. Paul.
22 Ulcer of the Stomach and Duodenum. A. T. Mann, Minneapolis.
23 The Empty Intestine Treatment of Typhoid Fever. A. D. Hard, Marshall, Minn.
24 Treatment of Postpartum Hemorrhage with Momberg's Rubber Tube. F. L. Adair, Minneapolis.

21. Abstracted in Report of Minnesota State Medical Association in Department of Society Proceedings in this issue.

Medical Fortnightly, St. Louis

October 25

25 Open Operative Treatment of Fracture of the Patella (continued). A. P. Heineck, Chicago.

American Journal of Medical Sciences, Philadelphia

November

26 *Intestinal Perforation During Typhoid in Children. J. H. Jopson and J. C. Gittings, Philadelphia.
27 General Movement of Typhoid Fever and Tuberculosis in the Last 30 Years. G. M. Kober, Washington, D. C.
28 *Experiments Relating to Bacterial Content of the Feces, with Researches on the Value of Certain Intestinal Antiseptics. J. Friedenwald and T. F. Leitz, Baltimore.
29 Case of Carcinoma on Diverticulitis of Sigmoid. H. Z. Giffin and L. B. Wilson, Rochester, Minn.
30 *Cervical Rib and Its Relation to Neuropathies. S. P. Goodhart, New York.
31 The Interpretation of Aphasia. F. X. Dercum, Philadelphia.
32 School Life: Its Relation to the Child's Development. T. M. Rotch, Boston.
33 *Compression of Pulmonary Veins, the Pressure Factor in the Etiology of Cardiac Hydrothorax. G. Fetterolf and H. R. M. Landis, Philadelphia.
34 A Practical Hospital Polygraph. T. B. Barringer, New York.
35 *Locomotor Ataxia and Paralysis Agitans in the Same Patient. A. A. Eshner, Philadelphia.
36 *Cerebral Tumor Presenting an Unusual Clinical Course. R. D. Rudolf and J. J. Mackenzie, Toronto.

26. **Intestinal Perforation During Typhoid in Children.**—Jopson and Gittings studied the cases of perforation in typhoid occurring in children, and reported since 1903, with a view to confirming, if possible, the findings of Elsberg, and, at the same time, to consider briefly those points in the clinical course of typhoid in children that have a bearing on the diagnosis of perforation and to compare these with the symptoms commonly observed in adults. They collected from various sources 2,274 cases of typhoid in children in which perforation occurred thirty-five times (1.54 per cent). In collecting cases of perforation in children for study they fixed the usual age limit of fifteen years; they analyzed only cases in which operation was performed and perforation proved; they did not consider cases of peritonitis occurring without perforation, nor did they study cases of perforation of the appendix in which this lesion was manifestly due to a preexisting or coincident appendicitis not due to typhoid ulceration. Reported since the publication of Elsberg's paper in 1903, are 45 cases in subjects 15 years of age and younger, the exact age being given in 44. The youngest (4) were aged 5; 2 recovered, and 2 died. There were 3 patients aged 15 years, all of whom died. Of 21 patients under 10 years, 12 recovered, 9 died, a mortality of 43 per cent.; of 23 patients 10 years of age or over, 10 recovered and 13 died, a mortality of 56.5 per cent. In 31 cases the type of the disease previous to perforation was mentioned; 8 were mild, 15 were moderate, and 8 were very severe. Of the mild cases, 5 patients recovered, 3 died in cases of moderate severity, 8 patients recovered, 7 died. In the very severe cases 2 patients recovered and 6 died. The influence of the severity of the attack on the prognosis in cases of perforation as shown by these figures seems to be considerable. The child who is toxic and exhausted by prolonged hyperpyrexia is in poor condition to resist the additional complication and operative intervention. In 44 cases the time of perforation was definitely stated. The danger of perforation is greatest at the end of the second and during the third week. Nine patients were in relapse at the time of perforation; in another, a probable relapse, the duration of the disease was not stated, thus making ten cases in all. The date of the perforation ranged from the seventh to the fifteenth day of the relapse. Of these patients, 6 recovered and 4 died, a percentage of recoveries higher than that observed in unrelapsed cases. In 87.5 per cent. (21 out of 24 cases) pain was an initial symptom; in one case it was mentioned as not being initial; in two other cases it had been present during the illness to such an extent as to constitute a difficulty in diagnosis. In 89 per cent. (25 out of 28) the pain was severe. In the remaining 11 per cent. it was stated to be not severe. In 58.6 per cent. (17 out of 29) the pain was general in distribution. In 24.1 per cent. (7 out of 29) it was confined to the right side of the abdomen, especially the right iliac region. In 10 per cent. (3 out of 29) it was noted in the left side. In one case it was noted in the "upper" and once in the "lower" abdomen. In 10 out of 17 the pain was persistent, in 4 of which it continued to increase in severity. In 3 out of 17 it was intermittent in type; and in 4 it was distinctly stated to be "not persistent." Tenderness was noted as being present in 36 out of 45 cases. It was recorded as "general" in 15; prominent in the right iliac fossa in 9; confined to the "lower abdomen" in 2; and once to the hypogastrium. Rigidity is almost invariably present. It was noted as being absent in only 1 of 32 cases of the series in which full data were given, and in 1 it was absent early but appeared later. In 26 cases, vomiting was present 20 times and absent 6. Of the 20 cases, it occurred as an initial symptom in 4. Distention was noted as being present in 19 cases and absent in 11. Distention was present in only 50 per cent. of the patients who recovered and in 91 per cent. of the patients who died. In sixteen cases the normal area of liver dulness was diminished or almost obliterated; 5 times this was noted in early cases. Effusion, as indicated by movable dulness in one or both flanks, was noted as being present in 8

cases. In 12, information as to the temperature was entirely wanting. Of 33 cases there were 15 in which the temperature was depressed at some time subsequent to perforation, and in 11 of these it was specified that there was an immediate drop. In 6 there was no change. In 5 there was a rise at the time of, or shortly after perforation; and in 7 the temperature was fairly high. In 33 per cent. of the cases was it specifically stated that there was a pronounced initial drop in temperature; so that it is probably absent in more than half the cases occurring in childhood. A chill at the time of perforation was recorded in 6 cases. In 34 cases more or less satisfactory observations on the pulse rate were furnished. The majority of cases in children, as in adults, show an increase in the rapidity of the pulse rate; and in a considerable number, a weakening in the quality of the pulse may be looked for as an accompaniment of intestinal perforation. Shock was distinctly stated to be a marked symptom in 10 out of 45 cases, the most prominent alteration being in pulse and facies, and sometimes temperature—a rapid increase in the first; a pinched, pale, anxious expression in the second, and a fall in temperature, being the concomitant features. In 3 cases in which there was no shock the facies showed no change. The study of the data on respiration was unsatisfactory. Leucocytic counts were recorded in only 14 cases, in 6 of these repeated observations were made. They suggest that a falling count is unfavorable, while a high count or a rapidly rising count is of better prognostic significance.

The important diagnostic symptoms which are shown by a study of these cases are: pain, tenderness, and rigidity, which in children, as in adults, are early in their development and fairly constant in appearance. Next in importance, because less frequent, but of significance when present, are a drop in temperature, a rise in the pulse rate, and some degree of shock, often preceded or accompanied by vomiting, with perhaps a preceding or accompanying chill. A wave of leucocytosis will sometimes be recorded, and is at least as significant, if not more so, than in adults. Distention and obliteration or diminution of liver dulness are of little value in making the diagnosis in children, while effusion is mainly of value in confirming it. Other points are an absence of abdominal respiration, inhibition of peristalsis, and possibly a rise of blood-pressure, hitherto unstudied, in early life. The accident of perforation may be simulated in children, as in adults, by a number of other conditions.

28. **Bacterial Content of Feces.**—According to the authors, regulations of diet, together with the evacuation of the bowels, is the most effectual method that they have at hand of reducing the excessively high bacterial content of the intestine. Betanaphthol and bismuth salicylate appear to be the most effectual intestinal antiseptic drugs in normal individuals, while the aspirin and ichthalbin effect slight reduction, and salol gives no results whatever. The results produced by means of intestinal antiseptics in patients suffering with gastrointestinal disturbances, do not seem to be marked, whereas the best results are obtained by regulation of diet.

30. **Cervical Rib.**—The salient points in the case presented by Goodhart are: 1. Onset of symptoms at an unusually early age (7 years). 2. Severity of symptoms, which are practically limited to the nervous system. 3. Hypesthesia in the region supplied by the inner cord of the brachial plexus (ulnar distribution). 4. Progressive atrophy of the small muscles of the hand, including the thenar and hypothenar eminences. 5. Cervico-dorsal scoliosis. 6. Stationary character of the symptoms referable to the cervical rib, in the absence of surgical intervention. 7. Demonstration of the exact location of the roots of the brachial plexus in their relation to the supernumerary rib on the left side; digital pressure on each producing numbness and tingling in corresponding area of arm. 8. Diminution in size of the third normal rib on the left side, well-shown in the radiogram. 9. Beginning symptoms due to pressure on the opposite side. 10. Surgical removal of both cervical ribs.

33. **Cardiac Hydrothorax.**—The explanation which Fettefolf and Landis offer to account for these effusions that accompany heart disease is as follows: The fluid comes not from the parietal, but from the visceral pleura, and the outpouring is caused, so far as the pressure factor is concerned, by dilated portions of the heart pressing on and partly occluding the pulmonary veins. Two sets of blood-vessels enter the lungs, the bronchial arteries and the pulmonary arteries. The former are nutritional in function and are derived from the aorta or from the first aortic intercostal. They enter the hilum of the lung and follow the posterior surface of the bronchi, some of their terminal branches reaching and supplying the pleura. The pulmonary arteries, in addition to carrying venous blood to the lungs, send twigs to the pleura. In this membrane there is a capillary anastomosis between the terminal branches of the bronchial and pulmonary arteries, on the one hand, and the venous radicles which are tributary not to the bronchial but to the pulmonary veins, on the other. It is evident, therefore, that the venous blood from the visceral pleura is poured into the pulmonary veins, and, as a corollary, that any obstruction to the flow through this vein, if of sufficient power and duration, and if accompanied by whatever condition of the blood essential to transudation, would produce leakage through the visceral pleura into the pleural sac. Points in favor of the theory are that it explains equally well right-sided, left-sided and bilateral collections of fluid, and also accounts for certain intrapulmonary conditions found clinically and post-mortem in association with hydrothorax.

35. Abstracted in THE JOURNAL, June 5, 1909, p. 1875.

36. **Cerebral Tumor.**—The patient, whose case is reported by Rudolf and Mackenzie, for the greater part of her life had suffered from severe headaches, with some aphasia during the paroxysms. At the menopause the headaches rather lessened in acuteness, but the aphasia tended to last slightly, so that she would hesitate in speech and occasionally use the wrong words, both in speaking and in writing. Next she got an attack of what seemed like acute cerebral compression without localizing symptoms. This passed off, and she was as well as before for nearly ten weeks. Then the compression recurred, and again passed off, but recurred at intervals of a month, until the fifth proved fatal. Between the attacks she would seem nearly well, and on the day before the fatal one, spoke unusually well, and walked downstairs. The case during life seemed to be probably one of some sort of cyst, which periodically filled and after producing almost fatal compression emptied itself in some way. After the post-mortem, on stripping the dura from the cerebrum, it was found to be adherent over a large tumor mass which lay on and in the left cerebral hemisphere. There were a few small flat white tumor nodules on the inner side of the posterior portion of the dura over the left hemisphere and falx cerebri. A very large tumor was situated between the tentorium and the occipital lobe on the left side; this was attached firmly to the tentorium and was easily lifted away from the brain substance. There was considerable edema of the pia-arachnoid; the vessels of the left side were markedly congested and the convolutions were flattened. There was some dilatation of the lateral ventricles. The histologic characters of these tumors seemed to point without doubt to their being endotheliomata arising from the dura. The large soft tumor was of the ordinary cellular type of endothelioma; the large hard tumor and the small metastatic nodules in the neighborhood would fall into the class of so-called fibroendotheliomata.

American Journal of Urology, New York

October

37 Total Enucleation of the Enlarged Prostate. P. J. Freyer, London, England.
38 Principles Underlying the Newer Methods in the Diagnosis of Kidney Disease. J. Robertson, London, England.
39 Pyelonephritis of Pregnancy and the Puerperium. C. G. Cumston, Boston.

Old Dominion Journal of Medicine and Surgery, Richmond

October

40 *Sleep Paralysis of the Ulnar Nerve. A. Gordon, Philadelphia.
41 Associated Cardiovascular and Nervous Syndromes. A. G. Brown, Richmond.
42 *Present Status of the Treatment of Goiter. Le G. Guerry, Columbia, S. C.
43 *Clinical Aspect of Hyperthyroidism. M. Tompkins, Richmond.
44 Nasal Pressure as a Cause of Headaches of Apparently Ocular Origin. C. M. Miller, Richmond.
45 Pharmacologic Observations on the Action of Various Potent Remedies: Alcohol. L. B. Wiggs, Richmond.
46 Foreign Bodies Migrating into the Human Body. B. C. Nalle, Charlotte, N. C.

40. **Sleep Paralysis of Ulnar Nerve.**—Gordon says that it is the traction or over-extension of the arm but not a prolonged

postoperative lying position that is apt to produce an ulnar paralysis. If the latter were the real factor, ulnar palsies would be encountered very frequently, which is of course not the case. The ulnar palsy under the circumstances is probably the result of stretching of the nerve in its upper portion near the axilla. In sleep a similar phenomenon may be observed when an individual sleeps with the arms elevated, abducted, and behind the head. If the sleep lasts a long time the over-extension of the arm, and consequently of the nerve, is sufficient to interfere with the function of the nerve. Whatever the mechanism of ulnar neuritis in such circumstances may be, ulnar neuritis occurring during sleep is an infrequent phenomenon. As to the nature of the affection, all that can be said is: the normal function of the nerve has been interrupted; the over-extension of the nerve has brought on some molecular displacement which was sufficient to interfere with the proper conduction of stimuli through that nerve in a centripetal or centrifugal direction. Over-extension of a nerve is apt to tear its fibrils and its blood-vessels, and thus produce hemorrhages and inflammation. That an inflammatory state is not present is evident from total absence of pain at any stage of the disease and from the rapid improvement that follows treatment. This consists only of daily massage and of strict precautions against over-extension of the limb not only at night but also during the day.

42, 43. Abstracted in THE JOURNAL, Oct. 23, 1909, p. 1421.

Ophthalmic Record, Chicago

October

47 Injuries from Foreign Bodies Examined by the Roentgen Rays, with Results of Operation. W. M. Sweet, Philadelphia.
48 Instruments for Opening from the Lachrymal Sac Directly to the Nasal Cavity. H. Gifford, Omaha, Neb.
49 *Rapid Method of Staining the Trachoma Bodies of Halberstaedter and Prowazek. F. H. Verhoeff, Cambridge, Mass.
50 *A New Law. J. H. Rhoads, Philadelphia.
51 Blood Pressure in its Practical Relations to Ophthalmology. E. Jackson, Denver, Colo.

49. **Rapid Method of Staining Trachoma Bodies.**—Verhoeff uses Wright's well-known modification of Leishman's stain with satisfactory results. The stain is applied in exactly the same manner as in the staining of the blood films. The specimen is conveniently obtained by scraping the cocainized conjunctiva with one edge of a cover glass instead of a knife, and by making use of the tears as a diluent instead of a salt solution as generally advised. If desired, the cover glass may be previously sterilized by flaming it. The tears and scrapings collected along the edge of the cover glass are then gently spread over the surface of another cover glass and allowed to dry in the air. The preparation is then flooded with the staining fluid which is allowed to act one minute. Distilled water is then added, about 8 drops, until a slight scum is formed on the surface of the mixture, which is allowed to remain three or four minutes. The preparation is then differentiated by washing off the staining mixture with distilled water and allowing the water to act about one minute. The differentiation may be followed by placing the cover glass film side up on a slide and watching the process under a low power of the microscope. The preparation is then quickly dried with fine filter paper and mounted in balsam.

50. **A New Law.**—This new law, discovered by Rhoads, is: The angle of refraction is the law of the perspective. All parallel lines are seen to approach each other at a one-minute angle. This angle controls all vanishing points, and all lines and planes; in fact, the size of all objects and the angle of all lines, whether large or small, broken, crooked, curved or straight. And, moreover, it matters not whether they are viewed downward from a balloon, upward from a coal mine, or outward from an observer at any conceivable incline. The horizon has nothing whatever to do with the vanishing of any lines or objects, unless they happen to be nine feet apart when they leave the observer. The angle within which the human eye cannot see is conceded to be one minute—the average may be a little less, not greater—therefore, the eye separating two cobwebs at twelve inches from it would place them at 3/1000 of an inch apart. At ten feet from the eye the angle would be 30/1000 of an inch wide. At three-quarters of a mile the angle would be twelve inches apart, while at three and a half miles it will be separated five feet two inches, which is just wide enough to admit a trolley track. This angle continued to the horizon would gap about nine feet. Prolong this angle over the edge of the horizon to the half-risen moon and objects would have to be seventy miles apart on the face of the moon to be visible to the unaided eye, and continuing this angle on to the sun, spots on the disc of the sun, viewed through a smoked glass, by the naked eye, must be over 27,000 miles in extent to come within, or rather without this angle, to be seen by the human eye. To project these lines on to the nearest measured star, which requires three years for its light to reach us, and they would be wide open to the extent of 42,000,000,000 miles, and double stars would have to be placed at the extreme corners of this vast isosceles triangle, or they would be blended into a single star. Rhoads believes that each pair of parallel lines in perspective is an isosceles triangle, and the length of its sides is governed by the width of its base; especially is this true if they are less than nine feet apart when they meet between the observer and the horizon. If they are wider than nine feet they gap on the horizon.

Parallel lines four inches apart would come together at 1,320 feet, only on twenty-sixth of the distance to the horizon. Parallel lines one foot apart come together at three-quarters of a mile, less than one-sixth distance to the horizon, and parallel lines two feet apart come together at a mile and a half from the observer. While lines nine feet apart come together on the horizon, all lines wider than nine feet, if on a level plane, gap at the horizon, but if they go up a mountain side or off into the air they meet where the one-minute angle brings them together, *i. e.*, where the human eye can no longer separate them.

Journal of Cutaneous Diseases, New York

October

52 Increase of Certain Contagions Following the Great Fire in San Francisco. D. W. Montgomery and H. Morrow, San Francisco.
53 Acute Septic Pemphigus. J. Grindon, St. Louis.
54 Bromid Eruption Mistaken for Blastomycosis. O. S. Ormsby, Chicago.

Mississippi Medical Monthly, Vicksburg

November

55 Diagnosis and Treatment of Acute Intestinal Obstruction. J. W. Armstead, Sidon.
56 Carbon Dioxid Snow: Its Uses and Method of Application. J. H. Fox, Vicksburg.
57 *Congenital Umbilical Hernia into the Cord. C. E. Catchings, Woodville.
58 Hookworm Disease or Uncinariasis. B. Z. Welsh, Wool Market.
59 Hystero-Salpingo-Oöphorectomy Duplex for Fibroids. W. R. McKinley, Columbus.

57. **Congenital Umbilical Hernia into Cord.**—In the case reported by Catchings the cord was greatly distended at its point of insertion into the abdomen forming a tumor about two and one-half inches in diameter, and about three and one-half inches long. One side or half of this tumor was opaque, while from the other side the contents could be partly determined through the hernial coverings, owing to the thinness of the layers. It was a case of congenital hernia into the cord. Manipulation to reduce the contents was of no avail. The hernia was reduced by operative means. The contents of the hernia were cecum and appendix, a portion of the ileum and some omentum, all firmly adhered to the opaque side of the tumor. The infant recovered.

Journal of Abnormal Psychology, Boston

October

60 Case of Psychochromesthesia. T. H. Raines, Savannah, Ga.
61 Psychology of General Paresis. A. Schmiergeld, Ward's Island, N. Y.
62 Certain Pulse Reactions as a Measure of Emotions. I. H. Coriat, Boston.

Detroit Medical Journal

October

63 *General Anesthesia in 5,400 Patients. A. V. Wenger, Grand Rapids, Mich.
64 Appendicitis in Children. G. Van A. Brown, Detroit.

63. **General Anesthesia.**—Five thousand, four hundred anesthesias with no fatalities is the experience recorded by Wenger. He urges that patients be prepared more thoroughly than is the general rule. Eliminate, so far as possible, the moving of patients after partial or complete anesthesia. When ether or chloroform are the drugs to be administered, use the

open method, drop by drop, so that elimination may progress in a comparative ratio to absorption. Except when contraindicated, give morphin from ⅛ to ¼ of a grain, and atropin from 1/200 to 1/100 of a grain, hypodermically, from 15 to 45 minutes before anesthesia is begun, for the purpose of reducing the amount of drug and controlling mucus secretion. Keep the mouth clear of the mucus that is secreted, which, when laden with ether or chloroform and swallowed, is the most frequent cause of postoperative vomiting. If this is well looked after the frequency of vomiting will be much reduced. Always have a hypodermic syringe charged with at least 1/20 grain of strychnin and 1/100 of a grain of digitalin, and whenever possible, a second hypodermic charged with atropin 1/75 of a grain at hand. When anesthetizing the center of attention should be the business in hand, not the operation. Give only enough attention to the operation to guide in the degree of anesthesia. Be careful and gentle with the eyes. Keep in mind the fact that pupilary reflex and conjunctival reflex from drug vapor are sufficient guides and that they are fully as accurate as the reflex obtained by the finger touching the conjunctiva or cornea. Begin all anesthesias with ether or chloroform slowly, carefully watching the color of the patient and the condition of the pulse, respiration and skin. If the patient is markedly cyanosed it will often be found that a change from ether to chloroform or *vice versa* will relieve the condition. In tedious operations the patients should receive an infusion of saline solution, from one-half to three pints, according to indication. Always examine urine, heart, lungs and mouth, and always ascertain that all clothing is loose about the patient's body and neck.

Annals of Ophthalmology, St. Louis

October

65 *Ocular Symptoms of Arteriosclerosis. W. E. Bruner, Cleveland.
66 Accuracy in Measurement of Refraction. E. Jackson, Denver.
67 Conjunctival Infection in Manila. R. T. Edwards, Phrapatoom, Siam.
68 Reflex Asthenopia from Intranasal Pressure. M. L. Foster, New York.
69 Apparently Idiopathic Recurrent Vitreous Hemorrhage. N. M. Black, Milwaukee.
70 Flat Sarcoma of the Uveal Tract and Angiosarcoma of the Orbit. H. G. Goldberg, Philadelphia.
71 The Choice of Operation for Iridotomy. M. Radcliffe, Philadelphia.
72 Complete, Hard Cataract, with Extraction, at the Age of Fourteen. H. A. Kiefer, Los Angeles.
73 Angioid Streaks in the Retina, with Report of Case. W. Zentmeyer, Philadelphia.
74 Hereditary Blindness and its Prevention (concluded). C. Loeb, St. Louis.

65. Abstracted in THE JOURNAL, June 5, 1909, p. 1872.

Vermont Medical Monthly, Burlington

October

75 Autointoxication. C. W. Peck, Brandon.
76 Tuberculous Hip Disease. N. W. McMurphy, Gilmantown, N. H.
77 Fractures of Bones of the Face. G. S. Bidwell, Waterbury.
78 Fractures of the Femur. L. W. Burbank, Cabot.
79 Dislocation of the Lower Jaw. H. H. Hayward, Tunbridge.
80 Bronchopneumonia. J. H. Judkins, Northfield.

Southern Medical Journal, Nashville

October

81 Treatment of Cancer of the Skin. J. M. King, Nashville.
82 Inguinal Hernia and its Successful Cure by Operation with Local Anesthesia. W. W. Battey, Augusta, Ga.
83 Maxillary Sinus Disease and its Surgical Treatment. M. M. Cullom, Nashville.
84 Uncinariasis. C. P. McNabb, Knoxville, Tenn.
85 *Diagnosis of Syphilis by the Wassermann Reaction. W. Litterer, Nashville.
86 Treatment of Tuberculous Peritonitis. W. A. Bryan, Nashville.
87 Gonorrhea and the Public Health. T. Frazer, Asheville, N. C.
88 Intestinal Parasites and the Diagnosis of Neurasthenia. W. Allan, Charlotte, N. C.
89 The Opsonic Index. G. S. Foster, Manchester, N. H.
90 Cholelithiasis Complicating Typhoid; Operation During the First Week; Recovery. J. M. Mason, Birmingham, Ala.
91 *Harelip Twins. C. H. Cargile, Bentonville, Ark.

85. This is practically identical with the article by this author which appeared in THE JOURNAL, Nov. 6, 1909, p. 1537.

91. **Harelip Twins.**—Cargile records a case of "harelip twins," on whom he operated when they were about three months old. The deformities were not alike, one being single hare-lip with only slight deformity of the dental arch, while in the other, though the palate was perfect, there was double fissure of both lip and arch with anterior projection of the intermaxillary bone.

Western Medical Review, Omaha

October

92 Etiology and Pathology of Acute Articular Rheumatism. P. G. Woolley, Omaha.
93 Symptoms and Diagnosis of Acute Articular Rheumatism. W. O. Bridges, Omaha.
94 Rheumatism in Children. F. W. Lake, Omaha.
95 Rheumatism and the Heart. J. M. Mayhew, Lincoln.
96 Cerebral Rheumatism and Chorea. T. C. Little, Omaha.
97 Iritis. W. D. Shields, Holdrege, Neb.
98 History of the Wyoming Medical Society for the Past Six Years. G. L. Strader, Cheyenne, Wyo.

University of Pennsylvania Medical Bulletin, Philadelphia

October

99 *Compression of the Superior Mesenteric Artery on the Systemic Blood Pressure. W. T. Longcope and A. T. McClintock, Philadelphia.
100 Development of Public Health Work in Philadelphia. A. C. Abbott, Philadelphia.
101 Practical Considerations on the Sinus Maxillaris. J. P. Schaeffer, Ithaca, N. Y.
102 Opportunities for the Practice of Sanitary Science. H. B. Wood, Philadelphia.
103 Some Fermentative Properties of Bacteria. D. H. Bergey, Philadelphia.
104 Anomalous Origin and Distribution of the Coronary Arteries. G. Fetterolf, Philadelphia.

99. **Compression of Superior Mesenteric Artery.**—It is evident from the physiologic experiments performed by Longcope and McClintock that constriction and ligation of the superior mesenteric artery will bring about immediately a slight but definite rise in blood-pressure, which is sustained over a short period of time, and so far as can be learned it is not possible to produce this same result by compression of any other branch of the aorta below the diaphragm. Two explanations are offered. The superior mesenteric artery supplies a relatively large area of the body, and the effect of constriction may be analogous to that resulting from compression of the aorta at the diaphragm. By obstructing the vessels a considerable proportion of the peripheral circulation is cut out, the peripheral resistance is increased, and the pressure, therefore, rises. Another explanation is, however, possible. Following complete ligation of the vessel there is, of course, marked anemia of the entire small intestine. This sudden anemia may induce, through a reflex action, an elevation of blood-pressure.

Colorado Medicine, Denver

October

105 The Progress of Medicine. P. J. McHugh, Estes Park, Colo.

Medical Herald, St. Joseph

October

106 A Study in Reflexes. L. M. Crafts, Minneapolis.
107 Acute Pancreatitis. D. S. Fairchild, Des Moines.
108 High Potential Currents and Low Frequencies. I. C. Barnes, Topeka, Kan.
109 Presentation of Case Three Years After Ligation of Common Femoral Artery for Large Aneurism in Scarpa's Triangle: Cure. L. J. Dandurant, St. Joseph, Mo.

Bulletin Johns Hopkins Hospital, Baltimore

November

110 The Two Sylviuses. F. Baker, Washington, D. C.
111 The Epidemic of the Indians of New England, 1616-1620. H. U. Williams, Buffalo, N. Y.
112 *Use of Silver Wire in Opening the Kidney. E. K. Cullen and H. F. Derge, Baltimore.

112. **Silver Wire in Opening Kidney.**—In man and dog there are, as a rule, two main arterial trunks supplying the kidney, one passing to the anterior, the other to the posterior portion. While studying the tree-like branching of these arterial trunks, the thought occurred to Cullen and Derge: Could it be possible to open the kidney in such a manner as to avoid the two main trunks, and, at the same time, do as little damage as possible to the finer branches. Anatomically, the proper procedure in performing a nephrotomy would be to cut from within outward, and some blunt instrument which would push the vessels aside would probably give the most satisfactory results. In order to determine the feasibility of this supposition, a series of nephrotomies was performed on dogs, and the results obtained were very definite and gratifying. A No. 3 silver wire was used as the blunt instrument, and proved very satisfactory, its pliability and low tensile strength making it almost impossible to tear any of the larger branches, providing ordinary care was exercised in pulling the wire slowly outward. Two series of experiments were performed to

determine, first, whether the direction of the incision had any appreciable effect on the resulting hemorrhage; that is, whether the hemorrhage would be less if the knife were passed from the region of the kidney pelvis out through the cortex and capsule, than from the capsule into the pelvis; secondly, whether the hemorrhage would be lessened and more readily controlled if a silver wire were used in lieu of the knife in splitting the kidney from within outward. In the first series of experiments, in which the knife alone was used, all the incisions were made in a plane at right angles to the curved vertical axis of the kidney. Two incisions were made in each experiment, one by passing the knife from cortex to pelvis, and the other by transfixing the kidney in antero-posterior manner close to the pelvis, and bringing the knife out through the cortex. Both of these incisions were made at a level of about 2 cm. from either pole and carried through the center of the lobule situated between the central and upper or lower polar lobule. In each instance, irrespective of whether the incision from pelvis to cortex was placed near the upper or lower pole, the hemorrhage was appreciably less when the knife was directed from pelvis to cortex than from cortex to pelvis. In the second series of experiments, both the knife and silver wire were used, and the experiments divided into two separate groups:

In the first group, the knife was used in making the incision near one pole and the silver wire near the other pole. The silver wire was usually employed first. A No. 3 or No. 4 silver wire threaded on a Kousnietzoff-Cullen straight liver needle was passed transversely through the kidney at the upper level of the pelvis. The capsule was then nicked with a knife from the point of entrance of the wire around to the point of exit. This procedure was found necessary to avoid trouble—some bleeding from the tearing of the capsule. With the kidney firmly held in the hand of the assistant, the wire was readily brought out through the cortex by a gentle see-saw motion. On examination, the cut surfaces appeared almost as clean-cut as if the knife had been used. In several instances bleeding, which was only a slight venous ooze, was so slight that a mere approximation of the two surfaces checked all bleeding, and had it been possible to keep the surfaces pressed closely together the kidney could have been safely dropped back into position without a single suture being necessary.

Alabama Medical Journal, Birmingham

October

113 Tetanus. S. G. Stubbins, Birmingham.
114 Present Theories Concerning Internal Secretion. H. Swedlow, Birmingham.
115 Ophthalmic Signs in Arteriosclerosis. B. D. Sibley, Birmingham.
116 Management of the Growing Girl. E. H. Sholl, Birmingham.
117 Non-Operative Gynecologic Methods. L. A. Jenkins, North Birmingham.

Journal of Nervous and Mental Disease, Lancaster, Pa.

November

118 Tumor of Hypophysis Cerebri. D. O. Hecht, Chicago.
119 Angiosarcoma of the Left Hemisphere. C. E. Riggs, St. Paul, Minn.
120 *Care of the Insane Epileptic. C. T. La Moure, Rochester, N. Y.

120. **Care of Insane Epileptics.**—La Moure advocates the establishment of a separate state hospital for the care and treatment of the so-called insane epileptics and the transfer of all epileptics from other state hospitals to such state hospitals for epileptics. With such arrangement many of the difficulties existing at present will, he thinks, be obviated. Beyond constituting a sufficient population to establish a large institution devoted to the solution of these problems, it is further pointed out that if this class were removed from present surroundings the vacancies thus created would provide room for an equal number of a non-epileptic class, thus tending to relieve the over-crowding which now exists.

Laryngoscope, St. Louis

October

121 Nasal and Nasopharyngeal Conditions as Causative Factors in Aural Disease. G. A. Leland, Boston.
122 Idem. N. H. Pierce, Chicago.
123 Idem. D. B. Kyle, Philadelphia.
124 Surgery of the Esophagus, Laryngologically Considered. C. Jackson, Pittsburg.
125 Three Esophageal Cases. H. P. Mosher, Boston.
126 Space and Time as Aural Concepts. P. Fridenberg, New York.
127 Elongated Styloid Process. C. W. Richardson, Washington, D. C.
128 Progress in the Surgical Treatment of Chronic Stenosis of the Larynx and Trachoma. J. R. Winslow, Baltimore.
129 The Telephone Therapy. J. G. Wilson, Chicago.
130 Direct Intubation of the Larynx. H. P. Mosher, Boston.
131 Acute Attic Suppuration with Hernia of the Drumhead Leading to Transient Labyrinthitis. H. Gradle, Chicago.

Journal of the Tennessee State Medical Association, Nashville

October

132 *Indications for Surgical Intervention in Peptic Ulcer—Choice of Operation. J. A. Gaines, Nashville.
133 *Rational Drug Therapy. E. R. Zemp, Knoxville.
134 *Lung Puncture as a Therapeutic Measure. T. J. Coble, Shelbyville.
135 Perineal Prostatectomy. G. B. Livermore, Memphis.
136 Definite Terms in Diseases of the Stomach. E. H. Jones, Murfreesboro.
137 A Word from the Druggists. H. C. Shapard, Shelbyville.
138 Cancer of the Stomach: Pylorectomy. B. B. Cates, Knoxville.
139 Eczema of Infancy and Childhood. J. Clear, Clinton.
140 Episcleritis, Treatment. G. H. Price, Nashville.

132, 133, 134. Abstracted in THE JOURNAL, May 1, 1909, p. 1452.

Journal of Ophthalmology and Oto-Laryngology, Chicago

October

141 Surgical Correction of Deformities of the Nasal Septum. E. Pynchon, Chicago.
142 Historical Review of the Development of the Cataract Operation. L. Stricker, Cincinnati.

Journal Arkansas Medical Society, Little Rock

October

143 Polypharmacy and Therapeutics; Then and Now. L. P. Gibson, Little Rock.
144 Acute Dilatation of the Stomach and Duodenum. C. H. Cargile, Bentonville.

Journal of Advanced Therapeutics, New York

October

145 Standardization of High Potential Electric Currents. E. C. Titus, New York.
146 Sciatica. F. B. Granger, Boston.
147 The Correction of Flat-Foot (continued). H. McIntosh, Boston.
148 Cases Treated by Static Electricity. A. B. Condict, Delhi, India.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 23

1. Experimental Psychology and Hypnotism. G. H. Savage.
2 *Cancer Research. H. C. Ross and C. Macalister.
3 *The Diagnosis of Malignant Disease by the Antitryptic Index. H. W. Bayly.
4 *Investigation of Serratus Magnus Infection in Cancer of the Breast. T. B. Henderson.
5 Cancer in New Zealand. P. W. Hislop and P. C. Fenwick.
6 *Rodent Ulcer Treated by Potassium Bichromate. W. Gemmill.
7 *Ascites Due to Liver Cirrhosis Treated by Operation. G. G. Turner.
8 Primary Carcinoma of the Appendix. D. M. Greig.

2. **Cancer Research.**—Ross and Macalister place on record some facts regarding a chemical substance which causes a remarkable train of events when it is absorbed by human lymphocytes in that it promotes, first, excitation of ameboid movement, then reproduction, and lastly, it causes death. These events are closely related to each other, and follow in quick succession under experimental conditions. More than a year ago they noted that there appears actually to exist in the body-fluids of persons suffering from carcinoma a substance which causes the first of these events in the chain—namely, the excitation of ameboid movements. A mixture of methylene blue and atropin excites ameboid movements in leucocytes. So does the blood of a cancer patient. The same mixture will cause lymphocytes to extrude flagella with a particle of chromatin at their ends; so will the plasma of a cancer patient. Ross and Macalister have shown that an extrusion of chromatin also appears to be a phenomenon which occurs in cancer cells, and that cancer cells appear to produce "something" which aggravates the disease. It is possible, they say, that this "something" is chromatin, and in support of this theory is the fact that an extract which probably contains chromatin or a derivative of it accelerates the action of the artificial auxetic. The deduction is that this chromatin thrown out by the cancer cells may be the element which, by affecting some other unknown substance, may promote a repetition of the changes which cause the three events in the chain to which they have referred.

The promoter of the first of these events (exciter of ameboid movement) has already been described as existing in the blood of cancer patients, and to a greater extent in the juice of a growth. If chromatin, or a derivative of it, is the "something" which aggravates the disease, in order to produce a chain of events similar to that which has been observed in lymphocytes, it will have to aggravate the action of a substance resembling in effect that contained in the anilin dye which causes, first, reproduction and then death. It may also be noted that chromatin is a product of katabolism which, as has been suggested, may predispose to the disease in persons over the age of 40.

Experimentally one can induce mitoses in lymphocytes and these cells present characteristics resembling in many ways those appertaining to cancer cells. Cancer cells frequently show the first (heterotype) mitotic phase; but whether the mitoses induced in lymphocytes are of the first gametic variety remains to be proved. The research which Ross and Macalister have conducted has shown that the actual phenomena of mitosis in human lymphocytes can now be demonstrated. The remarkable differences between these cells and the other leucocytes are now apparent. Lymphocytes respond to the auxetic and endeavor to reproduce themselves, whereas leucocytes do not. The cytoplasmic (Altmann's) granules of leucocytes can be stained without harm to the lives of the cells. The nuclear granules of the lymphocytes, on the other hand, are composed of chromatin, and somatic death occurs when they stain. The fact that the nucleoli of lymphocytes form the centrosomes is also interesting, but not unique, from a cytologic point of view.

3. **Antitryptic Index and Malignant Disease.**—By the antitryptic index is meant the power of inhibiting tryptic digestion possessed by any given serum, compared with such inhibitory power possessed by a normal standard serum: or, in other words, the ratio of the powers possessed by different serums for neutralizing tryptic ferments. Bayly observed that most processes involving cell destruction, whether bacterial, mechanical, or cytolytic, produce a raising of the antitryptic index. The phenomenon, therefore, can be in no way regarded as specific, but this lack of specificity, though it narrows the scope of the reaction, still leaves an ample margin where its utility as an aid to diagnosis in malignant disease is clearly shown. It has been observed that the serum of patients with gastric ulcer gives a nearly normal reaction, and a diagnosis between this condition and carcinoma of the stomach can therefore be facilitated by the antitryptic test. Of 30 cases of cancer studied by Bayly, 26 (86 per cent.) show a markedly raised index. Of the remaining 4 cases (10 per cent.) 3 show practically normal indices, and one shows a subnormal index. This case was a very advanced one.

If bacterial infection is present, this method at the moment cannot claim any great diagnostic value, but in the absence of such infection its great help in affording a diagnosis between malignant disease and gastric or intestinal ulcers, non-malignant strictures, aneurisms, or non-malignant conditions of the bladder (such as stone), pelvic conditions in the female, is apparent. The negative evidence afforded by a normal antitryptic index is also of great value in excluding malignant disease.

4. **Serratus Magnus Infection in Breast Cancer.**—The observation of a number of cases of breast cancer which presented nodular recurrences about the lower half of the scar, led Henderson to believe that in certain instances such recurrences might be due to the almost invariable practice of leaving intact the serratus magnus muscle, perhaps already infected by outlying extensions of growth. If, he says, there are lymphatics in the pectoralis major which communicate at an angle with those in the pectoral fascia, the same arrangement is more than likely to hold good in the case of the serratus magnus, and it will be found in the future to be a routine necessity to remove the "exposed" portion of this muscle in the surgical treatment of those mammary cancers which overlie it.

6. **Rodent Ulcer Treated by Potassium Bichromate.**—The case under consideration was a woman of 82, with a history of having a "sore of the nose" for two years. On examination the condition was found to be typical of rodent ulcer. On account of the extent and position of the ulcer, it was thought impracticable to employ surgical means for its removal. A 10 per cent. aqueous solution of potassium bichromate was painted on the surface of the ulcer night and morning for a few days, until a marked inflammatory reaction in the surrounding tissues occurred, the ulcer being protected between times by a piece of lint retained in position by strips of sticking-plaster. The bichromate was then stopped, and a dressing of boracic ointment applied until the surrounding inflammation was allayed. The ulcer then appeared to be in a healthier condition, the floor having been partly destroyed and granulations becoming evident.

The process was repeated twice, potassium bichromate being painted on the ulcer night and morning as before, with a similar result, and being followed by the application of boracic-acid ointment. The effect of the potassium bichromate was the production of a sloughing of the unhealthy tissue over the whole floor, which extended also under the rolled edge of the ulcer. Healthy granulation was promoted, and after the completion of the third series of applications of the bichromate, the epithelium spread rapidly over the ulcer, which healed completely, leaving a somewhat irregularly pitted scar. From the beginning of the treatment till the ulcer was apparently cured occupied a period of three months.

7. **Omentopexy for Ascites Due to Liver Cirrhosis.**—Turner reports two cases: (1) Cure of ascites due to alcoholic cirrhosis; double radical cure of hernia subsequently; patient alive and well two years and nine months later. (2) Syphilitic cirrhosis; omentopexy; death.

Lancet, London

October 23

9 Recent Advances in Knowledge of Sleeping Sickness. A. G. Bagshawe.
10 Congenital Heart Affections, Especially Diagnosis of the Various Malformations. G. Carpenter.
11 Chronic Glanders in Man, with Reference to an Unusual Type Affecting the Upper Respiratory Tract. O. L. Addison and G. S. Hett.
12 *Two Interesting Bilharzial Conditions. F. C. Madden.
13 Late Rickets (?) in a Previously Healthy Child Aged 13 Years. F. Hernaman-Johnson.
14 *Calcified Left Ovarian Dermoid. F. Ivens.
15 Obliterative Arteritis. R. A. Bennett.
16 Importance of Early Recognition of Tuberculous Mediastinal Glands in Children. J. Allan.
17 Carcinoma of the Appendix. A. M. Kennedy.

12. **Bilharzial Conditions.**—Madden reports cases of bilharzial deposits in the subcutaneous tissue of the penis, bilharziosis of the glans, prepuce and body of the penis, and of bilharziosis of the glans penis ending in epithelioma.

14. **Calcified Left Ovarian Dermoid.**—In Iven's case the tumor was separated from its pedicle, transplanted on to the right broad ligament and vesical peritoneum; removal on the tenth day of the puerperium from a xii-para.

Medical Press and Circular, London

October 13

18 Dechlorination in Treatment of Chronic Nephritis. J. S. Fowler.
19 *Hemorrhagic Diphtheria. J. D. Rolleston.
20 Quacks, False Remedies, and the Public Health (continued). D. Walsh.
21 Mushroom Poisoning. J. Maheu.

October 20

22 *Sudden Death. W. L. Brown.
23 Quacks, False Remedies, and the Public Health (continued). D. Walsh.
24 *Causation in Health and Disease. F. Moulton.
25 Diagnosis and Treatment of Nephritis. J. T. MacLachlan.

19. **Hemorrhagic Diphtheria.**—According to Rolleston, cutaneous hemorrhages occurring during the early stages of diphtheria with or without hemorrhages from the mucous membranes and associated with other features of malignancy, occur in about 5 per cent. of all cases. The severity of the diphtheria attack is usually due to neglect of treatment at an early stage, but is sometimes due to precocious malignancy (syphilis). Hemorrhagic diphtheria is confined to children. It is not affected by the season, sex, or previous health. Reaction to antitoxin is delayed, and the usual sequelæ of serotherapy are much less frequent in hemorrhagic than in milder forms of diphtheria. The mortality of hemorrhagic diphtheria is over 80 per cent. All the patients who

recover suffer from extensive paralysis. Treatment should be large doses of antitoxin and frequent doses of adrenalin.

22. **Sudden Death.**—Sudden death, according to Brown, occurs at two epochs; (1) from birth up to 3 years of age; (2) from 30 onward. From 3 to 14 there is practically immunity, while from 14 to 30 very few cases occur. In the first period, females are affected more commonly than males, perhaps because male children tend to be bigger and stronger; while in the second period males are affected more commonly than females, because in adults the great cause of sudden death is vascular degeneration, to which males are notoriously more liable. Children under 3 are liable to die suddenly from apparently trivial illnesses. This liability is much the greatest during the first year. The post-mortem findings show a much greater variety of causes in children than in adults. Among these Brown found pulmonary collapse, suprarenal hemorrhage, and lymphatism. Among adults, the causes of sudden death are aortic regurgitation, which is the great valvular lesion producing sudden death, hemoptysis from advanced phthisis, vascular degeneration, which is the great cause of sudden death, especially premature degeneration—that is, while an active life is still being led; rupture or dilatation or an atheromatous artery is then much more likely to occur. Other causes are granular kidney without other obvious cause of death; atheroma of coronary artery; ruptured aneurism; pneumonia, cerebral hemorrhage; and persistent thymus.

24. This article also appeared in the *Lancet*, Oct. 9, 1909.

Clinical Journal, London

October 13

26 Postdiphtherial Paralysis. H. H. Tooth.
27 Functional Disorders of Stomach and Intestines: Diagnosis from Organic Disease and Treatment (to be continued). S. Martin.
28 Some of the Difficulties in the Diagnosis and Treatment of Appendicitis. R. Bucknall.

October 20

29 Gout. S. West.
30 Functional Disorders of the Stomach and Intestines; Their Diagnosis from Organic Disease and Treatment (continued). S. Martin.
31 Significance of Pain. H. MacNaughton-Jones.

Journal of Tropical Medicine and Hygiene, London

October 1

32 Fowl Spirochetosis. A. Balfour.

Journal of Obstetrics and Gynecology of the British Empire, London

October

33 *Critical Inquiry into the Causes of the Internal Rotation of the Fetal Head. R. H. Paramore.
34 Statics of the Pelvic Viscera, and Their Relationship to the Operative Treatment of Uterovaginal Prolapse. G. A. Casalis.
35 Age of Onset of Menstruation in Egyptian Girls. B. S. Elgood.

33. **Internal Rotation.**—Paramore is of the opinion that the factors concerned in causing internal rotation of the head are: (1) the expulsive force from above; (2) the obstructing, central fixing force from below; (3) the shape of the pelvis; (4) the shape, size, consistence and position (flexion) of the fetal head.

Annals of Tropical Medicine and Parasitology, London

October

36 *Mechanism of Production of Hemoglobinuric Fever. J. O. W. Barratt and W. Yorke.

36. **Production of Hemoglobinuric Fever.**—This is the report of the blackwater fever expedition to Nyasaland of the Liverpool School of Tropical Medicine, 1907-1909. The report is very full and it is only possible to refer very briefly to some of the conclusions drawn by the investigators. The first point studied was the hemolysis of red blood cells by quinin and also by acid, alkali and urine. The authors found that quinin bihydrochlorid and quinin in the alkaloidal state produce hemolysis of red blood cells, as do also hydrochloric acid and sodium hydrate, and that the action of quinin in the alkaloidal state in producing hemolysis resembles a catalytic action. Hemoglobin breaks up at a monomolecular rate under the action of quinin in the alkaloidal state. These four hemolytic agents possess, in equimolecular concentration, nearly the same hemolytic power, quinin in the alkaloidal state being weaker, and quinin bihydrochlorid stronger than hydrochloric acid and sodium hydrate, which occupy an intermediate position. Owing to the toxicity of quinin its concentration in the blood cannot reach an amount sufficient to allow of its direct hemolytic action on red cells taking place during life. The red blood cells during blackwater fever are not hemolyzed by quinin bihydrochlorid more readily than in health. In the presence of urine, hemoglobin, whether contained in red blood cells or in solution, is broken up. In the former case this proceeds at a monomolecular rate, no hemoglobin being dischared from the red cells into the urine, until destruction is nearly complete.

In studying the mechanism of production of suppression of urine in blackwater fever, the authors found that during experimental hemoglobinuria dependent on hemoglobinemia, as also in the hemoglobinuria of blackwater fever, granular casts of varying size, sometimes very soft, sometimes firm and dense, often containing degenerated nuclei derived from the epithelium of the renal tubules, were met with in the urine. During suppression in blackwater fever the urine contained very large firm casts with exceedingly coarse granules, often surrounded externally by epithelioma derived from the ducts of Bertini, in which these casts were formed. The amber-colored urine passed during partial suppression contained a large amount of coagulable proteid. The average daily amount of urine passed during nine days of partial suppression was in one case 28 c.c., in another case 66 c.c. They conclude that suppression of urine in blackwater fever is of mechanical origin, due to a blocking of the renal tubules. During simple uncomplicated hemoglobinuria of blackwater fever the sole pathologic condition existing in the kidneys appeared to be the presence of brown granular material in the lumen of the renal tubules. Venereal disease does not appear to influence either the tendency to blackwater fever or its severity when present. The clinical histories of the 17 cases studied are given in full.

Australasian Medical Gazette, Sydney

September

37 The Consumption Problem. C. Reissmann.
38 Therapeutics of Pulmonary Tuberculosis. A. Stewart.
39 Bacteriologic Examinations in Diphtheria. R. J. Millard.
40 Flies in Dissemination of Disease. J. B. Cleland.
41 Rôle of Water in the Spread of Human Helminthiasis. T. H. Johnston.
42 Fracture of the Base of the Skull. W. T. Hayward.
43 Acute Pancreatitis. E. J. Frayne.
44 Hemorrhage and Jaundice in New-born Infants. J. A. Cameron.
45 Three Ectopic Gestations in One Patient. F. J. T. Sawkins.

Bulletin de l'Académie de Médecine, Paris

October 5, LXXIII, No. 31, pp. 735-749

46 Robert-Houdin's Ophthalmologic Instruments. (Sur quelques instruments destinés à l'étude de la vision entoptique.) P. Yvon.
47 *Organotherapy in Addison's Disease. (Opothérapie surrénale dans la maladie d'Addison.) E. Boinet.

47. **Organotherapy in Addison's Disease.**—Boinet reports a case of well-defined Addison's disease in which the extreme languor, asthesia and emaciation indicated a rapidly fatal outcome, but under organotherapy the symptoms subsided and the patient, a man of 34, has been in good health during the ten years since. The gland substance was eaten fresh and a glycerin extract was injected two or three times a week. There are still traces of pigmentation, confirming, he thinks, the assumption of the nervous origin of this symptom. Béclère has reported a similar case of permanent recovery under organotherapy. The suprarenal treatment evidently acts by stimulating to hypertrophy the parts of the suprarenal capsules which are still intact, thus ensuring adequate functioning. Boinet cites five other cases that have been reported in France with marked improvement under organotherapy and adds three from his own experience, all the symptoms, except the pigmentation, showing great benefit from the suprarenal treatment. Two of these patients were women of 60 and 66, and the third was an omnibus conductor of 40 who was given treatment in the form of adrenalin by the mouth, 7 or 8 drops a day of the 1 to 1,000 solution. This was kept up for a month without signs of intolerance, and the patient regained his strength and resumed his work. In four other cases the suprarenal treatment failed to arrest the disturbances. One patient overdosed herself, with intolerance as the result and

nervous disturbances, the disease running its usual course. In the second case in this group a fibrocaseous tuberculous process terminated in the syndrome of acute suprarenal insufficiency. The patient was a mechanic of 35 with the classical syndrome of the disease, which was much ameliorated by injection of suprarenal extract for nearly a year. After a very fatiguing day he was given a subcutaneous injection of ⅓ mg. of adrenalin. This was followed by symptoms of acute suprarenal insufficiency, rapidly fatal. In the two other cases the rapidly fatal acute syndrome of suprarenal insufficiency followed soon after injection of one or two minute doses of adrenalin. In the condition which Boinet calls "Addisonism," that is, the Addison syndrome with pigmentation and capsular insufficiency resulting from sclerosis of the gland, as well as in the condition, without pigmentation, resulting from sclerous inflammation, the prognosis of superposed acute pulmonary affections is much graver than ordinary. This condition of Addisonism is more promising for organotherapy than the cases of fibrocaseous suprarenal tuberculosis. Suprarenal sclerosis is frequently encountered during or toward the end of pulmonary tuberculosis, while extensive fibrocaseous tuberculosis of the suprarenals is generally primary and is restricted to these glands. The secondary suprarenal process, causing Addisonism, in the course of tuberculosis of the lungs or intestines, is sometimes favorably influenced by ingestion of sheep suprarenal glands. In one such patient, the pigmentation has subsided and the symptomatic improvement has been marked. Sézary has recently compiled 17 cases of sclerous inflammation of the suprarenals presenting the syndrome of gradual suprarenal insufficiency with pigmentation—it is possible that the cases of recovery from Addison's disease under organotherapy all belong in this category and were not cases of true Addison's disease from primary and extensive tuberculosis of the suprarenal capsule.

Obstétrique, Paris

September, New Series II, No. 9, pp. 629-692

48 *Indications for Delivery by Rapid Dilatation of the Cervix. (L'accouchement par dilatation rapide du col.) P. Bar.
49 Historical Sketch of Maternities at Paris. C. Maygrier.
50 Twin Monster. (Monstre double derodyme tribrachie humain.) L. Tribondeau.

48. **Rapid Delivery.**—In this communication read at the international medical congress Bar compares the various methods for rapid delivery and the advantages according to the individual indications. He has used the Bossi dilator in 13 cases with no fatalities, but the cervix was lacerated in every case and the tear was very extensive in all but 3. In 20 cases in which he dilated the cervix with his fingers, laceration occurred in 30 per cent., and 2 of the women succumbed to hemorrhage. Bonnaire had also 16 per cent. of severe lacerations in 159 cases of digital dilatation. The inflatable bag has been applied by Bar for dilatation in 171 cases; the entire lower segment was not torn in any case and no fatal hemorrhage occurred, but slight lacerations were the rule. Lacerations in the cervix are liable to lead to immediate complications and by cicatricial tissue growth to favor secondary infection of the cervix later. Except in large multiparæ artificial rapid dilatation of the cervix is unable to open the way entirely for delivery and the comparatively insignificant lacerations caused by the fingers, bag or instrument tear further as the child is born, the laceration being liable to extend far up into the cervix and environing tissues.

Revue de Chirurgie, Paris

October, XXIX, No. 10, pp. 571-721

51 "Position" Treatment of Fractures of the Clavicle. Couteaud.
52 *Walking Apparatus in Treatment of Fracture of the Tibia, etc. (La marche directe dans les fractures de jambe—méthode du Professeur Pierre Delbet.) P. Mocquot and J. Caraven).
53 Congenital Dislocation of Hip-Joint. Date of Occurrence and Pathogenic Varieties. (Les luxations congénitales de la hanche.) P. Le Damany.
54 *Flap Method of Suturing Blood-Vessels. (Nouveau procédé de sutures artérielle et veineuse.) A. Pirovano.

52. **Walking Casts for Fracture of the Tibia or Ankle.**—A number of the 29 patients whose cases are reported were reexamined recently and the findings confirmed the good results of treatment with a cast which allows the patient to use the limb in walking from the first. There is no pain, edema, atrophy of muscles or stiffness of joints with these walking casts, as when the limb is immobilized. In the cases reported the healing was complete in a short time, the patients leaving the hospital cured by the fortieth or sixtieth day, with good functional use of the leg. The te[illegible]or making the casts is illustrated.

54. **Flap Method of Suturing Blood-Vessels.**—The stumps of the vessel are cut square across and then slit on each side for about a quarter of an inch. The two stumps are then approximated, the flaps spreading apart as the stumps are pressed together until the farther end of the slits on each stump are brought close together and sutured, the projecting flaps on each side being ligated at their base. Instead of a circular suture, there are thus only two linear sutures while the lumen of the vessel is not rendered any smaller.

Deutsche medizinische Wochenschrift, Berlin

October 14, XXXV, No. 41, pp. 1777-1816

55 *Treatment of Eczema. (Prinzipien der Ekzembehandlung.) W. Scholtz.
56 Value of Portable Apparatus in Orthopedics. O. Vulpius.
57 Treatment of Syphilis with Mercury and Atoxyl Salts. (Wirkung des atoxylsauren Quecksilbers auf die menschliche Syphilis.) Miekley.
58 *Deprivation of Salt in Affections of Urinary Passages During Pregnancy. (Ueber Chlornatriumentziehung bei Erkrankungen der Harnwege während der Schwangerschaft.) O. Jaeger.
59 *Rectal Saline Infusion in Treatment of Pyloric Spasm in Infants. (Rektale Kochsalzinfusionen als spezifische Behandlung des Pylorospasmus der Säuglinge.) H. Rosenhaupt.
60 Enrichment of Tubercle Bacilli by Antiformin. (Die Tuberkelbazillen-Anreicherung mittels Antiformins.) Hüne.
61 *Mutual Charges for Medical Services Between Physicians. (Gegenseitige ärztliche Honorierung.) J. Schwalbe.

55. **Treatment of Eczema.**—Scholtz expatiates on the importance of considering both the etiology and the pathologic anatomy in the treatment of eczema, including in the etiology external and internal, direct and indirect, primary and secondary causes. Washing the part is injurious, not so much from contact with the water as from the fact that the epithelium is deprived of the natural oil, its best protection. Toxic influences from within are an important factor, so that internal treatment is frequently necessary for a complete cure, no external measures proving permanently successful until the autointoxication is conquered. His experience confirms the service sometimes rendered by Roentgen treatment in chronic eczema.

58. **Restriction of Salt in Urinary Disturbances During Pregnancy.**—In this communication from the late Professor Pfannenstiel's clinic, Jaeger states that not only nephritis and eclampsia but also cystitis and pyelitis in pregnant women were not only attenuated but given a turn for the better by systematic withdrawal of salt accompanied by restriction of the amount of fluids ingested. These measures fail of course, like all others, in the severer cases, but they frequently prove effectual in banishing the edema of pregnancy nephritis and mitigating the other symptoms. The patient should abstain from all articles of food which contain large amounts of salt in the raw condition or require much salt to make them palatable; for this reason, meat and soups are excluded from the diet. Milk contains too much fluid to be advisable as the main reliance, and to many women it is repugnant. The diet is mainly sweetened, unsalted egg dishes, omelettes, etc. Unsalted butter is freely given, also rice cooked in milk, sago, baked potatoes, puddings and gruels with plenty of milk and sugar, vegetables without much salt, especially cauliflower, green peas, carrots and mushrooms, fruit and weak tea, lemonade and milk, but no coffee. This menu allows sufficient variety and the patients keep up their weight on it. This diet is given unfailingly to all patients with affections of the urinary passages. He gives several instances to show the benefit derived from this salt-poor diet and bed rest in severe nephritis, as by its aid the fetus may be carried along to a viable condition. If bed rest, salt-free diet, wet packs and diuretics failed to relieve, and the fundus of the eye showed morbid changes, premature delivery was then induced, but this was seldom necessary in his experience, as the restriction of salt and of the intake of fluids almost invariably proved successful. Not more than from 1,200 to 1,500 c.c. of fluids are allowed during the day. In conclusion he cites the case

of a primipara with nephritis in both kidneys, right staphylococcus pyelitis and mild cystitis, all of which subsided under the influence of the above measures.

59. **Rectal Saline Infusion in Treatment of Pyloric Spasm in Infants.**—R[illegible]haupt calls attention to the specific action of salt solution in inhibiting the secretion of gastric juice. Recent research seems to indicate that the only rational and causal treatment of pyloric spasm is by checking the secretion of gastric juice. He has consequently been treating pyloric spasm in infants with rectal saline infusion and the results have convinced him that this is a specific means of treating this affection. It has failed only once in his experience, and in this case autopsy revealed an abnormally contracted stomach.

61. **Mutual Charges for Services Between Physicians.**—Schwalbe discusses the traditional custom that physicians treat their colleagues and their families without charging for their services. He shows how this custom was natural a century ago when the few medical men in a town or region were intimately acquainted with each other, but now conditions are entirely changed, and he urges that the custom be dropped, expatiating on its many drawbacks at present. Many medical men shrink from applying to a colleague for his gratuitous services when, if they were laymen, they would not hesitate to call on him, expecting to remunerate him according to the usual rates. The medical man is thus worse off than the layman. If he seeks to express his gratitude for services rendered by a gift, neither he nor the recipient feels satisfied. On the other hand, medical men sometimes have their services called into requisition by colleagues with scarcely a word of thanks. Schwalbe discusses the subject from all points of view and calls on the profession to cast away this antiquated custom, no longer corresponding to the present conditions. Fees for mutual medical service have nothing to do with professional honor, and whether medical men charge their colleagues for their services or not is not a question of medical ethics. He suggests that physicians who are intimate friends or professionally closely associated should not charge for mutual services. All others, those whom he does not know personally, the specialist is justified in charging for his services. It is every physician's right to pay for services rendered, medical or otherwise, and the consultant is under no obligation to refuse the fee. If he does not like to take a fee from his colleague, he can devote the money to some charitable purpose. The charge for the medical service should be, at most, in the medium grade of fees, not the highest. It is further to be expected that he will not insist rigorously on payment; the statement that the colleague is not able to pay the fee, or not until after a certain delay, should suffice to have the charge cancelled. In this way professional courtesy would be exercised in the ideal sense, but, as a rule, the principle should be maintained: *Beneficia nec obtrudantur nec exigantur*, "Favors should neither be thrust on one nor exacted."

Deutsche Zeitschrift für Chirurgie, Leipsic

September, CI, Nos. 3-4, pp. 205-412

62 Secondary Abdominal and Thoraco-abdominal Hydatid Disease. (Zur Kenntnis und Kasuistik der sekundären abdominalen und thorakoabdominalen Echinokokkenkrankheit.) G. Parlavecchio.
63 *Implantation of the Ureters in the Intestines. (Implantation der Ureteren in den Darm.) D. G. Zesas.
64 *Operative Treatment of Pseudarthrosis After a Fracture. O. Creite.
65 Clinical and Bacteriologic Study of Actinomycosis. (Zur Kenntnis der menschlichen Aktinomykose.) H. Shiota.
66 The "Mesenterio-mesencolic Ligament" and its Connection with Ileus. A. Neumann.

63. **Implantation of the Ureters in the Intestine.**—Zesas gives a historical review of the subject and tabulates the details of 147 cases in which Maydl's technic was followed and of 24 in which the implantation was by the "axial" technic. The end-results so far as known are also given. In the 147 cases in which Maydl's operation for exstrophy of the bladder was done, only 20 of the patients were females. The operation proved successful in 103 cases; 44 patients died, including 16 from pyelonephritis. The outcome with the Maydl technic is compared with the results of operations by other technics, and the various advantages of each are discussed.

64. **Operative Treatment of Pseudarthrosis after Fracture.**—Creite gives a summary of the thirty cases in which operative measures were applied at Braun's clinic at Göttingen. All but one of the patients were males. Better results were obtained with the Dieffenbach technic than with resection and suture. This consists in driving into each stump a smooth round ivory peg, for which holes are drilled. The irritation of the foreign body stimulates production of callus, while the fixation from the pegs aids in restoration of normal conditions. The peg was driven across the bone and cut off where it emerged; when possible, it was driven so as to hold the stumps firmly together. The pegs were not removed afterward as Roentgen examination showed no reason for their removal. Consolidation was complete on an average in two months; the shortest interval was five and the longest twenty-eight weeks. A steel peg was used in one case, and no healing followed. In comparing the results of the different technics he admits that the ivory pegs were used only for the tibia while among the resected cases were some with the fracture in the arm or thigh, naturally more difficult to cure. All that he seeks to establish, however, is that for certain appropriate cases the ivory peg technic gives good results and can he relied on.

Medizinische Klinik, Berlin

October 3, V, No. 40, pp. 1501-1538

67 *Neuroses of Digestive Apparatus. (Zur Kenntnis der Neurosen des Verdauungstraktes.) A. Pick.
68 Colles' Law (Das Collessche Gesetz). W. Knoepfelmacher and H. Lehndorff.
69 Hemophilic Hemorrhage After Removal of Adenoids. (Verlauf einer Blutung nach einer Adenoidoperation bei einem Bluter.) R. Kafemann.
70 *Ascending Infection of Urinary Passages. (Zur aszendierenden Infektion der Harnwege.) E. Nobl.
71 Volvulus of Ascending Colon. G. Seefisch.
72 Paratyphoid C Bacillus as Cause of Acute Gastroenteritis. E. Hübener.
73 Influence of Carbonated and Oxygenated Baths on Viscosity of Blood. (Beeinflussung der Blutviskosität durch Kohlensäure- und Sauerstoffbäder.) E. Broking.

67. **Neuroses of Digestive Apparatus.**—Pick concludes his article by emphasizing the importance of causal treatment; many of the cases reported as psychogenic dyspepsia he is convinced were in reality enterogenic psychopathies. When the trouble is of psychogenic origin, suggestion, encouragement and training are in order, but when these fail and in all cases of primary gastric neuroses he advises local, medical, physical and dietetic measures. Alkalines and hydrochloric acid are sometimes effectual when their action fails to correspond to the chemical findings in the stomach content; alkalines may thus render useful service even when there is deficiency of gastric juice. Menthol has also proved valuable in treatment of nervous dyspepsia; the pain, vomiting, loss of appetite and flatulence may subside at once and permanently. He has found the menthol most effectual combined with an alkaline. Local application of heat is useful in the cases with hyperesthesia and hypersecretion; cold is generally not tolerated. In differentiating a nervous stomach trouble, the intolerance for drinking water often suggests the clue; with gastric ulcer solid foods cause greater disturbance.

70. **Ascending Infection of the Urinary Passages.**—Nobl calls attention to the possibility of ascending infection from even the slightest vulvitis, and the frequency of cystitis and pyelitis as the source of certain febrile affections of obscure origin in girls. The vulva may be apparently sound but some minute process may maintain the infection and entail recurring ascending infection of the urinary apparatus above, such as he has encountered in his practice.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XX, No. 4, pp. 565-726. Last Indexed October 16, p. 1342

74 Experimental Research on Changes Induced by Stones in Urinary Apparatus. (Die nach der Anwesenheit von Steinen auftretenden Veränderungen im Harnapparate.) Kumita.
75 Teleangiectatic Granuloma. K. Reitmann.
76 *Pathology and Pathogenesis of Acromegaly. A. Exner.
77 *Function of the Celiac Ganglion. A. Exner and K. Jaeger.
78 Secretion in Goiters. (Zur Lehre der Sekretion in der Struma.) Lobenhoffer.
79 *Dilatation of the Cecum as Independent Morbid Entity and its Relation to Appendicitis. (Typhlatonie.) F. Fischler.
80 Torsion of the Stomach. (Volvulus ventriculi und die Achsendrehung des Magens.) A. Payer.

76. **Acromegaly.**—Exner publishes his research on the 3 cases of malignant hypophysis tumors removed by Hochenegg,

with retrogression of the acromegaly in the first 2, while in the third case the growth was too extensive to permit of complete removal. The close connection between the hypophysis and the functioning of the ovaries was evident in all; the thyroid gland increased in size after the operation in the first 2 cases. Exner points out features in the cases which show the close analogy between the conditions in pregnancy and in persons with deficient ovarian functioning on one hand and the conditions in acromegaly. In all there are changes in the hands and feet, abnormal growth of hair on the body, all of which return to normal on the conclusion of the pregnancy or removal of the hypophysis tumor. His research on the pathology and pathogenesis of acromegaly included transplantation of hypophyses in animals; it was followed by a gain in weight much beyond that of the controls. Study of the cases and results of experimental research have thrown light on a number of interesting points in regard to the mutual relations of individual organs.

77. **Functions of the Celiac Ganglion.**—In the case described, the retroperitoneal nerves had evidently been involved in a tumor which soldered the pancreas and rear wall of the pylorus together. The effect on the intestines was such as to simulate stenosis at several points, and experiments on animals confirmed the assumption that the celiac ganglion possesses fibers which have an inhibiting action on the movements of the intestines. When this ganglion is not functioning, the contractions of the intestines and peristalsis are much more intense and lasting than under normal conditions.

79. **Dilatation of Cecum as Independent Affection.**—Fischler has encountered 41 cases in which there seemed to be an isolated dilatation of the cecum, the syndrome suggesting chronic appendicitis in many respects, but it is evidently a morbid entity in itself. The appendix may or may not be involved in the process, but its removal does not effect a cure. The trouble is a muscular insufficiency of the cecum, the result of a localized catarrhal condition. The symptoms resemble those of dilatation of the stomach, the defective peristalsis, the sounds, the abnormal fermentations and gas formation, the catarrhal changes and the inability to pass the contents along. The affection is long in development and may persist indefinitely. He enumerates the various points differentiating the condition from Nothnagel's pseudoappendicitis, acute and chronic appendicitis, wandering kidney, affections of the adnexa and disturbances resulting from adhesions. In treatment, the aim should be to cure the chronic catarrh in the cecum. Albu demands a very exacting course of treatment for this, several weeks in bed, with tepid packs to the abdomen in case the disturbances are severe, vegetable food in the form of purées to keep the bowels regular, with oil, glycerin and soap enemas and a purgative twice a week, with belladonna suppositories three times a day and constant avoidance of physical exertion. But Fischler thinks that such a severe course of treatment is not required. The first thing is to exclude chronic appendicitis; this belongs to the surgeon. After the appendix has been removed, if this is necessary, the diet is regulated, reducing the amount of food as a whole, and inquiring to learn whether too much albumin, fat or carbohydrates is being taken in proportion to the total. Any excess of either should be stopped, and all substances liable to induce flatulence should be avoided for a time, dropping further from the diet any article of food which the patient has learned he cannot tolerate, milk in one case, beer in another, etc. Regular exercise is indispensable, especially that which calls the long muscles of the abdomen into play; when there is pain, it is best to avoid injudicious exertion. Massage is also useful, but the patient must be trained to apply it correctly, helping with light massage to push the contents of the cecum onward. The symptoms due to meteorism soon yield to appropriate massage, but applied ignorantly it is liable to increase the tendency to atony. Purgatives must be strictly avoided, as they aggravate the inflamed condition in the bowel. Oil and other enemas may be useful for a time, but they do not reach the seat of the trouble. The most important indication is to transform the intestinal flora, and this is best accomplished, he has found, by bismuth. He gives the subnitrate mixed with equal parts of magnesia usta to which a little pulverized rhubarb is added. A teaspoonful or less of this mixture is taken in water, after meals, three times a day, and benefit has always followed its persevering use. In case of much diarrhea he prefers bismuth salicylate as it is more constipating and has a stronger disinfecting action. He found bolus alba useful in 2 cases with much diarrhea and pain. Aside from these he gives no other drugs, but sometimes orders a wet pack at night over the region of the cecum. The patient soon learns to appreciate the benefit from the combined method of mixed but restricted diet, suitable regular exercise, massage and careful avoidance of allowing the abdomen to become chilled night or day, with occasional resort to the bismuth mixture as needed. He gives a detailed account of 3 typical cases out of his total of 41. An operation was required in 5. Two of the 3 cases reported were particularly instructive as the patients were physicians.

Münchener medizinische Wochenschrift

October 5, LVI, No. 40, pp. 2041-2088

81 Tuberculin in Diagnosis and Treatment, and Metabolism during Tuberculin Reaction. Saathoff.
82 Antiproteolytic Substance in Infants' Serum. (Ueber die antiproteolytische Substanz im Blutserum gesunder und kranker Säuglinge.) F. Lust.
83 Postoperative Reaction Glioma. (Das reaktive Gliom.) L. Merzbacher.
84 Chemistry of Tuberculous Sputum. Prorok.
85 *The Cammidge Pancreatic Reaction. O. Schumm and C. Hegler.
86 *Application of Cold to Back of Neck in Asthma and Rhinitis. (Therapeutische Kälteapplikationen auf den Nacken.) J. Marcuse.
87 Chronic Inflammatory Tumors in Abdominal Wall After Herniotomies. (Ueber chronisch entzündliche Bauchdeckengeschwülste nach Hernienoperationen.) E. Kreuter.

85. **The Cammidge Pancreas Reaction.**—Schumm and Hegler state that in many cases the response to the Cammidge test is merely a positive grape sugar test. They have simplified the Cammidge technic somewhat, and say that with their modification the test is more sensitive.

86. **Application of Cold to the Back of the Neck to Relieve Asthma.**—Marcuse confirms Muck's announcement in regard to the efficacy of the sudden application of a jet of cold water to the back of the neck as a means of controlling an attack of asthma. His experience has demonstrated that this is one of the most powerful means of acting on the respiration. The patient stoops over, and cold tap water is poured on the back of the neck from a pitcher holding over a gallon, held about two feet above; this is kept up for from half a minute to a minute and a half, or a strong jet of water is applied through a tube from the hydrant. He applies the water thus daily or two or three times a day, when the patient is being systematically treated for asthma, with or without preceding electric light baths. Muck advocates this measure as a means of relief in congested conditions in the nose, and Jurasz to arrest threatening espistaxis.

Therapeutische Monatshefte, Berlin

October, XXIII, No. 10, pp. 519-566

88 *Treatment of Stuttering. (Behandlung des Stotterns.) H. Gutzmann.
89 Action of Iodin. (Iodwirkung.) W. Heubner.
90 Importance of Supervising the Weight and Keeping the Appetite Good During Mercurial Treatment. (Bemerkungen über das Verhalten des Körpergewichts und die Diätetik während der Hg.-Inunktions-Kur.) P. Eisen.

88. **Treatment of Stuttering.**—Gutzmann is in charge of the university institute at Berlin for treatment of disturbances in speech, and his experience has convinced him of the extreme importance of careful study of the conditions in each individual case, not only the external and internal elements of the speech, but the character, temperament and secondary psychic phenomena, and after careful diagnosis, teaching the patient to imitate the processes of normal speech as he practices the elements in turn. To treat stuttering properly, he declares, the physician must be a good internist besides his special training in the nature and phenomena of stuttering. Among the points he has found particularly useful are training the patient to speak in a lower and monotonous tone, without stress on any syllables, the whole speech soft and gentle; when adult stutterers are particularly nervous he gives a little bromid preliminary to the exercises. A child who stutters does not get the training in speaking and expressing his

thoughts readily and in reading aloud which other children obtain, so that these children are backward in this respect after the stuttering is conquered. The main trouble in stuttering is in the defective use of the lips, tongue or throat, defective inspiration or expiration, even when the patient is speaking without stuttering. This is one of the reasons why psychotherapy fails—the underlying cause for the trouble has not been removed. Surgical treatment is effectual only in removing mechanical obstacles preliminary to the training of the organs to proper speech. The stutterer's dread and other secondary psychic phenomena subside spontaneously when he learns to control his speech. Gutzmann remarks in regard to quack advertisements that the "guarantee to cure" stuttering may afford a handle for prosecution of the quack as seeking to obtain money under false pretenses. Application of hypnosis to cure stuttering he regards as usually worse than the affection itself; he has frequently encountered cases in which hypnosis had been systematically applied by physicians over a long period without results. Dietetic and general tonic measures are always a powerful aid in the cure of stuttering.

Therapie der Gegenwart, Berlin

October, L, No. 10, pp. 459-504

91 *Indications for Restriction to a Milk Diet. (Ueber ältere und neuere Indikationen der Milchdiät.) E. Magnus-Alsleben.
92 *Gauging Residual Air with Emphysema, with Special Regard to Chondrotomy. (Residualluftbestimmungen an Emphysematikern, unter besonderer Berücksichtigung der W. A. Freundschen Operation.) F. W. Strauch.
93 *Influence of Roentgen Rays on Composition of Blood and Urine in Mixed-Cell Leucemia. (Fall mischzelliger Leukämie mit Röntgenstrahlen behandelt.) W. A. Boekelmann and C. J. C. van Hoogenhuyze.
94 Epidemic Occurrence of Appendicitis. (Das epidemische Auftreten der Appendizitis.) W. Klink.
95 *Necessity for Improvement in Preparation of Food for the Sick. (Bedeutung der diätetischen Küche für die Schonungsdiät.) W. Sternberg.
96 Influence of Deep Breathing on Metabolic and Respiratory Disturbances. (Einfluss tiefer In- und Exspirationen bei Stoffwechsel- und Luftwegeerkrankungen. (Chinesische Riechpulver.) R. Budberg.
97 Operation for Phimosis—Circumcision. C. Gerson.

91. **Exclusive Milk Diet.**—The indications for an exclusive milk diet have been considerably restricted of late years, especially in regard to nephritis and gastric ulcer. On the other hand, it is being recommended more than ever in the treatment of certain forms of heart disease, nervous prostration and in obesity. An exclusive milk diet has also been found useful in severe neuralgia. Hoffmann lauds it especially for this purpose, and His advocates avoidance of meat, at least.

92. **Operative Treatment of Emphysema.**—Strauch has had opportunity to examine three patients after the Freund operation had been performed, one both before and after the operative treatment for emphysema. The spirometer showed that comparatively little benefit had been derived from the operation; there was still an excessive amount of residual air, high total capacity and small vital capacity.

93. **Blood and Urine in Leucemia After Roentgen Exposures.**—The case of mixed cell leucemia reported is interesting, especially on account of the careful and prolonged study of the metabolism during Roentgen treatment and afterward on a diet free from nuclein, the research extending over six months. The findings are given in tabulated form, listed under thirty-two headings.

95. **Improved Methods in Preparing the Food for the Sick.**—Sternberg pleads again for the introduction into the household and the hospital of the methods of preparing the food practiced by French chefs. High art in culinary matters is characterized by extremely fine division of the substances, such as is possible only by grinding in a large mortar with heavy pestle and forcing through very fine sieves. The lack of these in the ordinary kitchen deprives the diet for the sick of its most important features. Ordinary strainers rest on the top of the vessel and it is impossible to apply much force. He advocates the drum hair sieve used by chefs, with meshes no larger than a fine needle. Considerable improvement is possible even with an ordinary kitchen sieve in the shape of a pan, if the sieve is turned upside down on the table so that force can be applied in putting the articles through it. He gives illustrations of chopped meat prepared for the ordinary ulcer diet and of the same meat as prepared by a chef, nearly half of the amount remaining on the strainer as connective tissue residue. This the chef uses for his soup stock, but in the hospitals or household it is all given to the ulcer patient in his chopped meat. It is important in putting the mass through the sieve to use a pestle for the purpose, rather than a spoon. He adds in conclusion that it is high time for dietetic therapy and technic to catch up with the progress in every other therapy and technic. The greater part of the work in high art cooking is in the preparation of the food before it is ready to cook.

Wiener klinische Wochenschrift, Vienna

October 7, XXII, No. 40, pp. 1359-1394

98 Congenital Predisposition to Appendicitis. (Ueber angeborene Lageanomalien des Wurmfortsatzes und angeborene Disposition für Appendizitis.) H. Albrecht.
99 Pathogenesis of Angiosclerosis. J. Tornai.
100 *Concussion of the Brain. (Ueber Gehirnerschütterung.) K. Ewald.
101 *Technic for Safely Evacuating Infectious Fluids. (Zur Frage der Entleerung infektiöser Flüssigkeitsansammlungen, insbes. des Darminhaltes bei Ileus.) H. v. Haberer.
102 A Specific Anaphylactic Reacting Body in the Blood with Tumor. (Zur Frage des Nachweises eines spezifischen anaphylaktischen Reaktionskörpers im Blute von Tumorkranken.) E. Ranzi and H. Pfeiffer.
103 Technic and Importance of the Wassermann Reaction. R. Müller.

100. **Concussion of the Brain.**—Ewald has been examining recently 45 patients treated since 1902 for concussion of the brain. He was surprised to find that only 11 had entirely recovered; the earning capacity in 23 was not materially impaired, although 12 patients had occasionally to leave work for a few minutes, hours or days on account of headache or vertigo. In 11 of the 45 cases extreme irritability had developed, but in one case it had subsided again. The memory was impaired in 9 cases. In 26 cases headache was complained of, continuous in a few. His experience shows that when the headache persists longer than six months permanent recovery seldom follows. In 12 other cases in which there was fracture of the base of the skull complete recovery was found in only 3 cases; the symptoms of vertigo, headache, irritability and restless sleep were more pronounced in this group. The 3 complete recoveries were in men who had had both fracture and concussion.

101. **Technic for Evacuating Infectious Fluids.**—Haberer gives an illustrated description of an apparatus which he has found extremely useful for evacuating the contents of the colon in ileus or of an ovarian cyst. Two tubes pass through the stopper into a large jar, one connected with an air pump, the other tube terminating in a trocar, fitting inside a small cylinder which presses firmly against the tissues as the trocar is introduced. The tissues are drawn up into this cylinder by the aspiration at the same time as the contents of the organ punctured are aspirated into the jar through the trocar. There is thus no danger of escape of the infectious fluid.

Zentralblatt für Chirurgie, Leipsic

October 9, XXXVI, No. 41, pp. 1401-1432

104 *Viscosity of the Blood in Surgical Affections and Operations. (Blutviskosität bei chirurgischen Krankheiten und Operationen.) W. Müller.
105 *Improved Technic for Vein Anesthesia. (Zur Venenanästhesie Bier's.) Momburg.

October 16, No. 42, pp. 1433-1464

106 *Technic for Anesthesia by the Rectum. (Ueber Rektalnarkose.) F. Dumont.

104. **The Viscosity of the Blood in Surgical Affections.**—Müller has been examining the viscosity of the blood in 230 patients with surgical affections at König's clinic at Altona during the last two years. He has made 1,050 separate investigations; these have shown that the viscosity of the blood depends on the number and the hemoglobin content of the red corpuscles and on the albumin content of the serum. After an aseptic operation in which the peritoneum is opened the viscosity of the blood increases rapidly during the next day and then in the next four days gradually decreases to normal, and in the following two days drops considerably below normal, then gradually returns to normal by the end of the week. In case of acute inflammation the viscosity is abnormally high, but the gradual decline below normal forms the same characteristic curve as he shows by several examples. He calls this decline below normal the phase of exhaustion. The importance of these curves is shown in the fact that any focus of

inflammation keeps the viscosity high, so that the rapid and regular postoperative decline is a sign of freedom from complications.

105. **Improved Technic for Vein Anesthesia.**—Bier's technic for this method of restricted anesthesia was described with an illustration in THE JOURNAL, May 1, 1909, page 1466. Momburg states that this technic has the disadvantage that the central constricting band gradually causes more and more discomfort to severe pain in the course of ten or fifteen minutes. This can be prevented by applying, after the anesthetic has been injected, a third constricting band just below the upper band and then removing the latter. The third band causes no discomfort as it is applied just within the margin of the anesthetized area. It can be applied over the minute incision made to expose the vein.

106. **General Anesthesia by the Rectum.**—Dumont protests that nothing but the fumes of ether should be allowed to pass into the rectum. His communication on rectal anesthesia was summarized in THE JOURNAL, Feb. 6, 1909, page 515. The unfavorable experiences that others have reported are due, he affirms, to neglect of the precautions which he advocated; chief among them is the interposition of a glass bulb between the jar of ether and the rectal tube. The ether has to traverse this bulb on its way to the rectum. It is brought into the bulb in a smaller, inner tube, the end curving downward inside the bulb, thus facilitating the dropping to the bottom of the bulb of any droplets that may condense from the fumes. In an operation of 80 minutes' duration 60 c.c. of condensed fluid accumulated in the bulb.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 7, XXX, No. 120, pp. 1265-1272

107 *Etiology of Nephritis. E. Maragliano.

October 10, No. 121, pp. 1273-1288

108 *Treatment of Nephritis. (I nuovi orizzonti della terapia delle nefriti.) A. Calabrese.

109 *Primary Splenomegaly. S. Micheli and C. Bozzolo.

October 12, No. 122, pp. 1289-1296

110 *Prophylaxis of Malaria. A. Graziani.

107. **Etiology of Nephritis.**—Maragliano declares that the present conceptions and classification of nephritis are erroneous; in nephritis the kidney is merely the exponent of a general morbid condition affecting the entire organism, defective oxidation processes, some profound modification in the cellular activity, with consequent accumulation of intermediate waste products. The nephritic kidney still retains its permeability; even in advanced degeneration there are always portions of the kidney left in good condition. These suffice for all purposes of elimination as a large part of the kidney tissue is a reserve supply in excess of what is required for ordinary functioning. The kidney is thus always permeable and it eliminates what it receives. The imperfect waste matters found in the urine in cases of nephritis do not testify to retention by the kidney, but merely to imperfect oxidation processes. Instead of testing for permeability and retention it is more logical, he asserts, to compare the total nitrogen and the ureic nitrogen as found in the urine and the blood. The problem is to decide the relations between the diseased kidney and the disturbances in the cellular processes. He adds that isolated brief periods of retention may occur from some nervous, inhibiting action or from obstructing of the tubules, but this is transient and elimination of an extra amount of waste follows. The disturbance in the cells results in production of some nephrolytic substance and the action of this on the kidneys, superposed on the general disturbances from the primary cause, produces the syndrome of nephritis. Both acute and chronic nephritis are curable if the primary morbid cause can be expelled. The kidney has a tendency to recuperate, and this change in the conception of nephritis puts an end, he declares, to the traditional fatalism in regard to the prognosis.

108. **Treatment of Nephritis.**—Calabrese protests against exaggeration and exclusiveness in dieting in nephritis; there is no need to exclude salt, he says, unless tests show that there is retention of chlorids. Unusual quantities of fluids need not be advised unless there seems to be a tendency to functional paralysis on the part of the kidneys. In this case water is better than drugs to stimulate kidney functioning unless the heart is weak and dilated, in which case the intake of fluids should be restricted. Venesection applied to the foot drains the congestion in the renal artery most effectually, but the main reliance is on measures to promote oxidations, and the elaboration of the albuminoid molecule by inhalation of oxygen and administration of iodids and alkalines. Organotherapy and serotherapy to date are still on trial. Surgical intervention is purely symptomatic and should not be considered until after failure of all medical means.

109. **Primary Splenomegaly.**—Micheli concludes his review of primary splenomegaly by stating that only primary tuberculous splenomegaly and Banti's disease, which he identifies with adults' splenic anemia, can be regarded as true primary splenomegaly. Bozzolo discusses treatment and relates his experience in 3 cases of Banti's disease in which splenectomy was done in 1900, 1902 and 1905 respectively. The patients were women between 29 and 45, and the cure has been complete to date, but in 3 other cases the patients did not survive the operation, and in 3 others it could not be concluded. The gravity of the operative traumatism, the multiplicity and toughness of the adhesions, the hemorrhagic diathesis and the lesser resistance of male patients, explain the difficulties and dangers of operative intervention in these cases. It seems to be always followed by gastrointestinal hemorrhage, pneumonia or fever, and should not be advised in all cases, especially not in advanced stages. A less difficult operation, possibly omentopexy, might answer the purpose. Tansini combined this with splenectomy in one successful case. In primary tuberculous splenomegaly, on the other hand, the patient can only gain by the splenectomy, even when the liver is involved in the process. Removal of the tuberculous spleen has given encouraging results to date in the cases on record. The liver lesions are arrested and retrogress.

110. **Prophylaxis of Malaria.**—Graziani has been studying the effect on the organism of long-continued administration of minute doses of quinin such as are advised as a prophylactic measure in endemic foci of malaria. The growth of young animals under the influence of minute doses of quinin for 100 days was compared with that of controls, the series including 24 rabbits and 30 guinea-pigs. The bactericidal and phagocytic power of the serum was tested for the malaria germ and the typhoid bacillus both in the animals and in clinical cases. The animals given the quinin (subcutaneous injection of 0.005 gm. per kilogram) lost weight or failed to take on weight in comparison with the controls. No influence could be detected on the bactericidal and phagocytic power of the serum, but the power of producing antitoxins seemed to be diminished, suggesting that prolonged administration of even these small doses of quinin might render the course of an infectious disease more serious and recovery more difficult. He cites in conclusion Serafini's remark that hygiene does not regard with approval any method of prophylaxis based on the introduction into the organism of any drug; it creates an abnormal, nonphysiologic condition, and is permissible only as a temporary expedient.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE CAUSATION OF SEX. A New Theory of Sex Based on Clinical Materials. By E. Rumley Dawson, L.R.C.P., M.R.C.S., Fellow of the Royal Society of Medicine. Cloth. Pp. 196, with illustrations. Price, 6 shillings. London: H. K. Lewis, 1909.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, United States Army. Authors and Subjects. Second Series. Vol. XIV. Q.—RZEHAK. Cloth. Pp. 829. Washington: Government Printing Office, 1909.

THOSE NERVES. By George Lincoln Walton, M.D., Consulting Neurologist to the Massachusetts General Hospital. Cloth. Pp. 202. Price, $1. Philadelphia. J. B. Lippincott Co., 1909.

TRANSACTIONS OF THE AMERICAN UROLOGICAL ASSOCIATION. SIXTH ANNUAL MEETING, 1907; SEVENTH ANNUAL MEETING, 1908. Edited by Charles Greene Cumston, M.D. Cloth.

HANDBUCH DER BIOCHEMIE DES MENSCHEN UND DER TIERE. By Carl Oppenheimer, in Berlin. Installments 20 and 21. Paper. Price, 5 marks each. Jena: Gustav Fischer, 1909.

SIXTEENTH ANNUAL REPORT ON THE BIRTHS, MARRIAGES, DIVORCES AND DEATHS IN THE STATE OF MAINE. For 1907. Cloth. Pp. 191. Waterville: Sentinel Pub. Co., 1909.